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Standard News Print Definition Protested

Statement In Connection With Suggested Changes Filed With Customs Bureau By Elisha Hanson, Counsel for American Newspaper Publishers Association — Decrease In Limit of Width and Increase In Thickness of Paper Requested—Free Uninterrupted Entry of Paper Asked for, Without Delay or Injurious Inspection

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., September 23, 1931.—Elisha Hanson, counsel for the American Newspaper Publishers Association in this city, has filed with the Customs Bureau the following statement in connection with suggested changes in the definition of standard news print paper, a hearing on which was held last week. Mr. Hanson says:

This memorandum is submitted in behalf of the American Newspaper Publishers Association in support of its proposal to amend T. D. 40996 with respect to the width of rolls of standard news print paper, and further in support of its proposal to revoke or amend T. D. 44317 with respect to the thickness of standard news print paper.

Congress provided, in the Tariff Act of 1922, that "standard news print paper" should come into this country duty free, and it reenacted this provision in the identical language in the Tariff Act of 1930. While in 1922 there was no such thing as "standard news print paper" and the phrase was a misnomer, nevertheless, at this time it may be adopted for the purposes of this discussion, in view of the fact that it has been officially defined by the Treasury Department on numerous occasions and twice interpreted by the United States Court of Customs and Patent Appeals.

T. D. 40996 attempted to define standard news print paper, and, among other things, provided that:

"The paper shall be in rolls not less than 16 inches wide and 28 inches in diameter. Sheets 20 x 30 inches."

Examples of many other newspapers in the United States which desire to use rolls ranging from 15 to 15¾ inches in width can be given if the Treasury Department desires, but, under the decision of the Court of Customs and Patent Appeals, in two cases—United States v. James P. Heffernan Paper Company, and Crown Willamette Paper Company v. United States, there can be no doubt whatsoever as to the admissibility free of duty of news print paper in rolls of 15 inches if the chief use to which that paper is put is for the printing of newspapers. At the present time, according to our information, there is no importation of such rolls, but there is use of such rolls in the printing of newspapers, so that this case comes clearly under the definition of chief use laid down by the Court in these two cases.

With respect to this particular request, it is important to point out that the American Newspaper Publishers Association is not interested in the business of any person or persons other than publishers of daily newspapers. Its membership is limited to the publishers of daily newspapers and its request for an amendment to this definition is made solely in their behalf.

T. D. 44317

On October 21, 1930, without previous notice to the publishers of daily newspapers, the Treasury Department promulgated T. D. 44317, which provides that news print paper falling within the definition of T. D. 40996, but *thicker than .004 of an inch,* shall not be admitted free of duty as standard news print paper.

The fallacy of this definition can easily be shown by reference to the decision itself. It is stated in the decision that the Department inspected some 600 newspapers representing papers published in every state in the Union, of which only 71 were printed on paper which exceeded .004 of an inch in thickness.

The 600 newspapers represent less than 3 per cent of all the newspapers, daily and weekly, in the United States. Yet, notwithstanding this fact, more than 10 per cent of the 600 papers were shown to have a thickness in excess of .004 of an inch, and there are no data in the decision to indicate what proportion of the volume of news print as compared with the total these 71 papers consumed. In other words, it is quite possible that the 71 papers using news print in excess of .004 of an inch actually consumed more news print than the other 529 put together. The *Washington,* (D. C.) *Star,* a paper with a very large circulation, printing nearly as many pages daily as all Washington papers, uses paper in excess of .004 of an inch in thickness. Therefore, it is submitted that any test which took in only 600 out of a possible 22,000 newspapers cannot be regarded as an adequate test.

There can be no question but that the Treasury Department at this time should revoke this definition in view of the fact that its action in writing it was equivalent to legislation after an attempt to attain legislation from the

(Continued on page 22)

Pulp Wood Demand Poor In Northern Ontario

Abitibi Power & Paper Co.'s Iroquois Plant Now Operating At Approximately Two-Thirds of Capacity—Dryden Pulp & Paper Co. Experienced Fairly Good Summer—Spruce Falls Pulp & Paper Co. Are Operating At About Half Capacity

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., September 21, 1931—W. C. Millar, Chief Sanitary Inspector for the Ontario Government, has just returned from a trip through Northern Ontario, during which he visited most of the pulp and paper mills and the woods operators between North Bay and Manitoba, on the T. & N. O. and the Transcontinental Railways, and between Sudbury and Manitoba on Canadian Pacific Railway. The poor demand at present for pulpwood, he says, is quite noticeable in travelling between North Bay and Iroquois Falls. Siding after siding was loaded up with peeled wood, some of it seemingly having been there since last year.

The Hawk Lake Company, in their mill near Iroquois Falls, are operating only half-time, only about fifty men being employed. Up to August 1 last, the Abitibi Power and Paper Company mill at Iroquois Falls had been running on full time, but owing to the plans by which they have to share some of their paper orders with their other mills, they are now operating about two-thirds of their full capacity. They have several gangs working in summer camps on their limits north of the mill.

The Hawk Lake mill at Island Falls has been running full time all summer, employing about seventy-five men. Considerable building was noticed in the town of Timmins and Kirkland Lake. None of the local people in these towns are idle, as all the gold mines are working twenty-four hour stretches. There is a great demand in both towns for dwellings and offices, which has not yet been met.

The Spruce Falls Pulp and Paper Company, at Kapuskasing are operating at about half capacity. They expect to take out about 80,000 cords of pulpwood during the coming winter. Major Fee is operating a mill at Fee's Siding employing about 65 men. The McDougall mills at Allenwater and at McDougall are shut down. Both mills have practically been dismantled and it is unlikely that they will again operate.

Are Busy at Sioux Lookout

At Sioux Lookout, the Calder's Canada Creosote Company have been busy all summer on a big order for the creosoting of railway ties. In the burning of the Farlinger mill at Sioux Lookout, a great blow was dealt that town, as the Farlinger plant had been Sioux Lookout's mainstay for many years. The mill will soon again be running at full capacity. It is expected that the company will have a busy winter on the limits north of Hudson. The Keewatin Lumber Company's mill at Hudson has been operating at full strength all summer, and C. W. Cox, of Port Arthur, has also been operating a small mill all summer at the same point. The town of Kenora has had one of its quietest summers, owing to the closing down of the paper mill and the saw mill owned by the Backus interests. It is expected that conditions will improve at this point in the very near future.

A little further east, on the C. P. R., the Dryden Pulp and Paper Company which makes a special kraft paper, and paper bags, has had a fairly good summer. The paper bag factory which is run in conjunction with the paper mill, employs about fifty operators. The Indian Lake Lumber Company which operates between Dryden and Ignace, have had their usual good summer cut, employing about 100 men in their saw mill. Around this mill one of the finest little towns in Northern Ontario has grown. East of Osaquan, Messrs. Clarke and Falls have been operating a loading station all summer, their camps being built on the site of the old Stewart mill at Sunshine.

Quiet at the Lakehead

Port Arthur and Fort William have been hard hit by the slump in the paper industry, the Great Lakes Paper Company mill, the Fort William paper mill and the Thunder Bay mills, having been shut down most of the summer. The Provincial pulp and paper mills, which specialize in book papers and specialties have, however, been working full time all summer. Only two of Port Arthur's lumber men have been carrying on operations this summer.

Wood-Cutting Operations

As an aftermath of meetings which Premier Taschereau had with lumber and pulp and paper executives some weeks ago, for the purpose of increasing wood cutting in the province during the coming season to give work to unemployed, it is learned from the Department of Lands and Forests that a number of firms have applied for permits. Among these are Price Bros. & Co., and the Donnacona Paper Company, the former to cut around the basin of Rat River and Mistassini River, and the latter on the Jacques Cartier River. Permits asked by other companies are for cuts on the Harrican and Abitibi rivers. The Price company will cut 40,000,000 feet, board measure, and the Donnacona Company 8,200,000.

The permits are given for a period of twelve months and are fixed as follows: For saw mill use: $2 per thousand feet for white pine; $1.00 per thousand feet for spruce. For pulpwood a uniform rate of $1.50 per thousand feet board measure, is imposed.

Each company will make a deposit of five hundred dollars at the Provincial Treasury as a guarantee that the specified conditions will be followed.

On the other hand, Canadian International Paper Company has decided to curtail lumbering operations this year in the Gatineau district surrounding Manawaki and it is reported that some 2,500 shanty men will be affected. Protests have been made by the workers.

It will be remembered, however, that Canadian International Paper carried out a heavy cut in this district last year with a view to providing as much employment as possible. Owing to water conditions, most of this cut has not been driven down to the mills, and it is the intention of the company to bring down the supply of wood this year now that a plentiful water supply has been made available by the new Cabonga reservoir.

Pulp and Paper Research Prize

Raimbault de Montigny, who received the degree of B.Sc. in applied science with honors in chemical engineering at McGill this year has been awarded a three-year fellowship for research work in cellulose and wood in the Division of Industrial and Cellulose Chemistry in the Pulp and Paper Research Institute at McGill University. He is

the son of Louvigny de Montigny, chief French translator in the Senate, Ottawa.

The prize was made possible by a generous contribution recently made by the Canadian International Paper Company. The object of the fellowship, in aiding research work in cellulose chemistry, is to bring education and industry into more effective relations, and thus serve the best interests of humanity. It is felt that industry will profit by the efforts that are thus being brought to bear on the efforts of those who are dealing with raw products.

Silk from Sugar Now Possible

Professor Harold Hibbert, of the Pulp and Paper Research Institute of McGill University, in an address at the convention of the American Chemical Society in Buffalo last week, demonstrated how synthetic silk could be made from sugar.

Dr. Hibbert has been carrying on at the Pulp and Paper Institute here an investigation of the manner in which the wood structure of plants and trees is produced. Simply, the plant absorbs carbon dioxide from the air and under the influence of sunlight and with the aid of the chlorophyll in the leaves, forms sugar which is converted into cellulose, which forms the skeletal structure of the plant.

This process is similar to that carried out by many bacteria but at the moment little is known of the way in which they work. Reproducing the experiments of the English botanist and plant pathologist Brown, Professor Hibbert has succeeded in producing cellulose from sugar, which has then been transformed into cellulose acetate from which artificial silk is made. Dr. Hibbert exhibited several samples of synthetic silk made in this manner.

Notes and Jottings of the Trade

The Don Valley Paper Mills, Ltd., Toronto, has issued a sample book of their blotting papers produced for the Rochester Paper Company. The book shows a comprehensive range of blottings in which the usual colors and weights are represented. The Toronto company recently contracted with the Rochester people for the manufacture of blottings in Canada.

C. Nelson Gain, formerly an executive of the Interlake Tissue Mills, Ltd., at Thorold, Ont., and at one time chairman of the Technical Section of the Canadian Pulp and Paper Association, has returned to his home in Thorold after a business trip to Montreal.

William Innes, manager of the Montreal office of Interlake Tissue Mills, Ltd., has returned home after an enjoyable holiday trip.

The Rolland Paper Company, Ltd., has issued a new folder under the title "Shaping Human Reactions". It is a sample of Rolland Antique Linen, Broad Laid, and the text stresses the wisdom of using a high grade paper in official correspondence.

The executive committee of the Canadian Paper Trade Association are considering the advancing of the date of the annual meeting this year and it is possible that instead of the gathering taking place in January as last year, September or October may be selected. The question of whether to hold the meeting in Toronto or Montreal is also under advisement.

Fraser Brace Engineering Company, Ltd., 107 Craig street, Montreal, has been awarded no-bid bulk contract for construction of a plant at Shawinigan Falls, Que., for the Canadian Industries, Ltd., 1050 Beaver Hall Hill, Montreal, the plant to be used for the manufacture of cellophane wrapping papers. The original intention was to erect the plant on Olivier Boulevard at Three Rivers. An expenditure of over $1,000,000 will be involved, which includes the cost of equipment. Clearing of the site has been commenced.

George Wilson, of Clarke Bros. & Co., Winnipeg, is receiving the congratulations of his many friends in the paper trade on having made a hole in one on the Manaki course in the Lake-Of-The-Woods district.

John W. Hewitt, Jr., of Paper Sales, Ltd., Toronto, has returned from a business trip to New York during which, in company with Victor Donaldson, president of the Robert Gair Company, he visited the Piermont paper box mill of the company.

Officials of the head office Canadian Industries this week confirmed the statement of W. V. Hodges, director of the Chamber of Commerce of the United States, at the Regina session of the Canadian Chambers of Commerce convention, to the effect that Canadian Industries intended erecting a cellophane plant to cost about $1,500,000. It is now officially stated that the plant will be erected at Shawinigan Falls instead of at Three Rivers, Que.

Frank Butler Dilts Dead

Frank Butler Dilts died at his home in Fulton, N. Y., Thursday evening, September 17, after an illness of several months. Mr. Dilts was born in Fulton, February 14, 1874, and has since resided in that city. He was graduated from Fulton High School and entered the engineering college of Cornell University. In 1893 the sudden death of his father, Frank Dilts, then owner of the Dilts Machine Works, called him from his studies in his junior year and he returned home to assume active management of the business. He continued in that capacity up to the time of his death, becoming its president when the business was incorporated in the year 1913.

During his business life Mr. Dilts had various paper mill interests, having been one of the incorporators of the Volney Paper Company, of Fulton, in which organization he served as a director and vice-president. He also held interests and official positions in the Eureka Paper Company, the Arrowhead Mills, Inc. and the Draycott Mills, Inc.

He took an active interest in civic affairs, serving as Republican alderman of the Fourth Ward from 1904 to 1907. He was one of the charter members of the Citizens' Club of Fulton, a director and vice-president of the Citizens' National Bank and Trust Company, and a member of the Mount Adnah Cemetery Association.

Mr. Dilts had an exceptionally able mind of recognized integrity. He was energetic and enthusiastic in everything he did. He enjoyed hunting and some years ago presented to the Citizens' Club the head of a mammoth moose which he shot in Canada.

He was an ardent golfer, being a member of the Oswego Country Club, of which organization he was president for several years, and of the Onondaga Golf and Country Club of Syracuse.

During the war he served as a captain in the ordnance department, being stationed at the United States arsenal in Watervliet.

He is survived by his wife, Bessie Smith Dilts and his sister, Mrs. B. W. Bennett of this city.

The funeral services were held at the home Saturday afternoon, Rev. Charles Mynderse Herrick, former pastor of the First Presbyterian Church officiating, and burial made in the family plot at Mount Adnah Cemetery.

Demand for Paper Expanding in Philadelphia

Fine Paper Market Exhibits Stronger Undertone, With Writing, Announcement, Book and Cover Papers More Buoyant Than of Late — Wrapping Paper Moving Freely Under Favorable Weather Conditions—Paper Stock Market Revives

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., September 21, 1931.—Gaining in improvement since Labor Day, the trade is now more active and Fall business appears to be on the upward trend. The distributors find keen competition in pursuit of orders. With fine papers at attractive levels mill agents and those paper merchants who sell in quantities are enjoying a fair volume of business. Local distributors find orders more or less of from hand to mouth type, but in greater frequency and more generalized than a few weeks ago.

Manufacturers of all lines of paper in the local section find that orders continue to grow, though not of normal type or sizes. Fine papers, such as fancy writing, bulkier book grades, announcements and cover papers, all show improved markets, with buying still cautiously confined to needs of the near future, rather than for stocking ahead. Board mills report slightly better demand, but with prices holding at the rock bottom of the year. Box manufacturers appear to have plenty of boards to meet the present curtailed operations, which are slightly improved, but still lack the volume of business expected at this season. Corrugated products show slightly higher demand, while fiber containers grow in shipments.

The torrid temperature which prevailed the earlier days of the week and part of the preceding week, with mercury registering 90 and over most of the time, promoted sales of hot weather specialties in broader scale. Drinking cups, tissues, towels, waxed papers and parchments, as well as the converted paper food containers, soda fountain and ice cream supplies, were all in good demand. These sanitary hot weather supplies have held well to normal distribution this summer owing to the continued hot weather.

Most encouraging in the paper stock market is the continued activity of general grades and particularly old news. Dealers were caught unprepared for the sudden awakening demand. Prices range higher, with an average of $1 per ton more asked from the mills. Finer grades, while active, are not as eagerly sought as news, but there is little accumulating in warehouses, so that still higher prices are looked for if present orders continue in sizable quantities. Pulpwood imports through the Port of Philadelphia for the month of August, as reported by the Commissioner of Navigation, show a decided falling off compared with the corresponding month of last year. Rags continue quiet, after a brief spurt of buying a fortnight ago.

Paper Mill Superintendents Meet

Members of the Pennsylvania and New Jersey Division of the American Pulp and Paper Mill Superintendents' Association, at their meeting, held in the Benjamin Franklin Hotel, last Saturday, arranged for the coming Semi-Annual Meeting to be held here October 17. The Semi-Annual meeting will be staged at the Benjamin Franklin Hotel and will include the usual business sessions, and social occasion, combined with educational talks by leaders in the industry. The Fall meeting will be arranged by the committee appointed September 12 and following members:—S. M. Hesser, Hinde & Dauch Paper Company, Gloucester, N. J., chairman; Frank Winslow, General Electric Company, Paper Mill Equipment Division, Philadelphia; J. Linville Mullin, Jessup & Moore Paper Company, Wilmington, Del.; Carl Smidth, Du Pont Corporation, Wilmington, Del.; John Diffenderfer, Paper Makers Chemical Corporation, Easton, Pa.; and J. B. White, National Vulcan Fibre Company, Yorklyn, Del. In the absence of E. C. Gildenzopf, of the Congoleum Nairn Company, Asbestos, Md., chairman of the division, James Garfield Ramsey, of the Jessup and Moore Company, past president of the association, presided at the meeting and dinner in the El Patio Grill of the Benjamin Franklin Hotel. There were 28 Mill Superintendents present, who joined in the forum discussions on sizing of paper, printing of paper, and adhesion.

Asbestos Companies Merge Sales

Announcement was made by the Keasbey & Mattison Company and the Ambler Asbestos Shingle and Sheathing Company, of Ambler, Pa., last week, of the merging of sales organizations which became effective on September 1. The sales divisions of the companies will be combined under the Keasbey & Mattison Company. Branch offices of the combined sales organizations are located in Baltimore, Boston, Chicago, Cincinnati, Cleveland, Detroit, Milwaukee, Minneapolis, New York, Philadelphia, Pittsburgh, St. Louis and Washington.

Platt Appointed Contractor and Distributor

Richard S. Platt, Albany, N. Y., has been appointed contractor and distributor for the Keasbey & Mattison Company in the territory surrounding the Empire State capital. The appointment of Mr. Platt, who has offices in the First Trust Company Building, Albany, follows fifteen years association with the local asbestos manufacturers, under the founder, Robert Keasbey, as foreman and superintendent of the contract department and salesman and manager of the Connecticut office and territory. For the past eight years he has been with Keasbey & Mattison as estimator, salesman, and manager of the Albany offices successively. He previously was engaged in engineering and construction work in New York.

Standard Shipping Box Co. Adds Equipment

The Standard Shipping Box Company, Rector and West Main streets, has extended equipment in its plant for the manufacture of corrugated containers, knock down shipping cartons, and other large corrugated and fiber shipping boxes. The firm, of which Richard A. Kenny is head, also buys job lots of such boxes in large quantities. The head of the firm is a brother of Thomas A. Kenny, of the International Trading Company, dealers in waste paper, rags, and other paper mill supplies, and at one time was connected with the waste paper industry in association with his brother.

Thomas A. Kenny Removes Office

Thomas A. Kenny, who conducts his business as dealer in paper mill stocks and supplies under the title of the International Trading Company, is now located with his brother, Richard A. Kenny, head of the Standard Shipping Box Company, Rector and West Main streets, occupying

separate offices for the International Company. The International Trading Company is also agent for the Draper felts used by paper manufacturers.

New Hand Book of DeJonge Papers

R. Peel Bentley, head of the Bentley Paper Company, Public Ledger Building, is sending to the trade a new hand book showing the complete line of printing papers made by Louis DeJonge & Co., New York. The name of the Bentley Paper Company is inscribed in gold lettering on the cover. The firm is the distributor of the DeJonge printing papers, the bookbinders supplies being sold directly through the Philadelphia Branch in the North American Building.

H. B. Turner With Wilder Bros.

H. B. Turner, who for the past 25 years or more has been linked with prominent Philadelphia paper houses, has joined the staff of Wilder Bros., 12th and Brown streets. He will cover the city trade, specializing in wrapping paper and specialties.

U. S. Gypsum Company Acquires General Offices

General Philadelphia offices and sales division for the eastern district of the United States Gypsum Company, have been removed from 1500 Walnut street to 1616 Walnut street. The eastern district offices occupy suite No. 916 in this modern structure, one of the largest and most recently constructed in the Quaker City. The eastern mills are located at 58th street and Schuylkill River. The Eastern executive and sales offices are under management of H. J. Schwabacher.

Direct Mail Leaders Exhibit

Under the auspices of the educational committee of the Direct Mail Advertisers Association there will be shown at the convention to be held in Buffalo, N. Y., October 7, 8 and 9, the fifty best specimens of direct mail advertising campaigns conducted throughout the year and selected by a committee of experts in the direct mail advertising, printing and paper trades to be sent over the country for exhibition and educational purposes. Five speakers representing the advertisers in the campaigns that were selected, will preside at the exhibit on October 9. They are: H. V. Mercer, American Rolling Mills Company; A. Scrivener, Ritter Dental Manufacturing Company; Charles Watson, Goodyear Tire and Rubber Company; and E. R. Wight, United States Envelope Company, Springfield, Mass. George W. Ward, of the D. L. Ward Paper Company, Philadelphia, is chairman of the educational committee of the Direct Mail Advertisers Association.

Crown Willamette Makes Good Report

Crown Willamette Paper Company reports net income aggregating $896,148 for the three months ended July 31, 1931, equivalent to $4.48 per share on the 200,000 shares of first preferred cumulative stock outstanding. These earnings for the first quarter of the current fiscal year compare with $639,353, or $3.20 a share, reported in the corresponding three months of last year on the same number of outstanding first preferred shares. During the first quarter of this year net income increased $256,795 over the same period last year—a gain of more than 40 per cent. Gross income likewise showed an impressive increase. Profit before depreciation, depletion, bond interest and income taxes totaled $2,239,013 for the three months ended July 31, 1931, as against $1,840,646 reported for the same quarter of last year. Gain in gross profit was $398,367 or approximately 22 per cent.

New York Trade Jottings

Dr. Rogers, secretary of W. L. Jones, Inc., general paper merchants, of 96-98 Prince street, New York, has just returned to duty after a trip through Europe.

* * *

Jay Madden Corporation, general paper merchants, of 100 East 42nd street, New York, have applied for membership in the National Association of Waste Material Dealers.

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Walter Hicks, of Daniel M. Hicks, Inc., dealers in paper mill supplies, of 200 Fifth Avenue, New York, has returned to his desk after spending an enjoyable vacation on Shelter Island, N. Y.

* * *

International Paper Company, of 220 East 42nd street, New York, announces the appointment of the Major Paper Corporation, of 259 West 10th street, New York, as distributors of Adirondack Bond.

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The National Exposition of Mechanical Handling, which was scheduled to be held in the Grand Central Palace, New York, November 30, to December 5, has been postponed until the Autumn of 1933.

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The regular Fall meeting of the board of directors of the National Association of Waste Material Dealers will be held at association headquarters, Times Building, New York, on Tuesday, September 29, at 2 p.m. All directors, as well as chairman of divisions are urged to attend.

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From the Kalbfleisch Corporation, of 535 Fifth avenue, New York, comes word that E. Y. Burckhalter has been appointed sales manager of the Rosin Size Division. Mr. Burckhalter assumed his new duties on September 10. He has been with this organization for more than seven years, and recently has acted as assistant sales manager of the Rosin Size Division.

* * *

F. H. Comtois, of the McGraw-Hill publications, *System*, was the guest speaker at the regular weekly luncheon and meeting of the Eastern Division of the Salesmen's Association of the Paper Industry, held at George's Restaurant, New York, on Tuesday. Mr. Comtois took as the subject of his address "The Marketing of Bond, Ledger, Manifold and Mimeograph Papers." He deduced some interesting conclusions from a thorough survey which he had made for his organization.

Hugh J. Chisholm Made Chairman

Hugh J. Chisholm of the Oxford Paper Company, has been appointed a divisional chairman of the Commerce and Industry Division of the Emergency Unemployment Relief Committee, it was announced recently by Harvey D. Gibson, chairman of the committee. Mr. Chisholm will head the activities of the paper industries in the division.

The Emergency Unemployment Relief Committee has been organized by business leaders to provide unemployment relief in New York this winter. Plans for coordinating the task of raising and distributing funds in all five boroughs of the City have been announced. Mr. Chisholm will form a committee to conduct solicitation among individuals and corporations in the paper industries.

Mr. Chisholm was a chairman in the Commerce and Industry Division of the Emergency Employment Committee, which raised over $8,000,000 last year, to place unemployed men and women at emergency jobs.

Superintendents to Meet At Wisconsin Rapids

Fall Meeting of Northwestern Division, Which Takes Place October 2 and 3, Expected to Attract About Three Hundred Members and Guests — George W. Mead, President of Consolidated Power and Paper Co., Will Address Annual Gathering

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., September 21, 1931.—Most of the arrangements have been completed for the Fall meeting of the Northwestern Division of the American Pulp and Paper Mill Superintendent's Association at Wisconsin Rapids October 2 and 3. About three hundred are expected. J. R. Simpson and C. E. Jackson, of the Consolidated Water Power and Paper Company, are chairman and secretary-treasurer respectively, and Harold A. Skinner, of the Marathon Paper Mills Company, Rothschild, is vice chairman.

On Friday morning, October 2, there will be a tour of the Consolidated mills and the Nekoosa-Edwards Paper Company's two mills. A stag luncheon will be held at noon. The afternoon will be devoted to discussion and a banquet will be held in the evening at which George W. Mead, president of the Consolidated mills, will give the address. A question box will be conducted by E. P. Gleason, of the Nekoosa-Edwards mills.

Saturday morning will be devoted to a golf tournament at the Bull's Eye Country club, with prizes donated by nearby mills. Divisional meetings will be held in the afternoon, followed by a banquet in the evening for both men and women. The time will be devoted mostly to entertainment. Activities for women have been planned, with Mrs. Stanton Mead as chairman.

Paper Chemistry Institute to Open

Twenty-six students from fifteen states are enrolled in the Institute of Paper Chemistry of Lawrence College, Appleton, Wis. This is more than last season when fifteen were accommodated, thirteen of whom are returning this fall. These men have had technical experience in mills of the American Writing Paper Company, S. C. Warren, Gilbert Paper Company, Crown-Willamette Paper Company, Kimberly-Clark Corporation, Hammermill Paper Company, Interlake Pulp and Paper Company, Mosinee Paper Mills, Northern Paper Mills, Northwest Paper Company, Neenah Paper Company, Thilmany Pulp and Paper Company and the Masonite Corporation.

Formal opening of the institute was scheduled Wednesday, September 23, when a new building erected for this specific work was to be dedicated. The building is the finest equipped of its kind, including besides its laboratories equipment in miniature of actual mills.

Forest Fire Control

Forty-eight additional men are to be employed as rangers, patrolmen and tower men in the forests of Northern Wisconsin until dry conditions are removed and the fire emergency no longer exists. These men will operate under the four area wardens concentrating on forest fire suppression and control. Married men with dependents are being favored and will receive $100 to $110 a month.

Forestry problems are being given consideration by an interim committee of the Wisconsin legislature whose purpose it is to obtain facts about forest fires, reforestation and taxes. A hearing was held at Superior, Wis., at which residents of the northwest part of the state were present. They said fire prevention would be the means of removing from the delinquent tax list much of the forest land now there, because their owners would feel inclined to devote it to tree growing if they knew it would not be burned over continually.

Under a law passed this year, counties having lands set aside for forest reserves receive twenty cents an acre, instead of ten cents, from the state annually towards their taxes.

News of the Industry

At Ashland, Wis., where much of the pulpwood is received from Canada for Wisconsin mills, arrangements are being made to dredge a channel twelve feet deep so lake boats can reach the municipal dock. The channel will be eight hundred feet long and fifty feet wide. The contract has been awarded to the Zenish Dredge Company and the cost will be about $2,800.

Operations have been suspended temporarily at the Telulah mill of the Fox River Paper Company, Appleton, Wis., while a new steel roof is being built. C. R. Meyer & Sons Co. has the contract but the work is being done by mill employees under their supervision. The improvements will cost about $15,000.

George W. Mead, president of the Consolidated Water Power and Paper Company, Wisconsin Rapids, Wis., is the principal stockholder and chairman of the board of directors of the newly organized Illinois Bank and Trust Company, of Rockford, Ill. In his early years, Mr. Mead was in the furniture business at Rockford and two downtown buildings there. He and some of his relatives and business associates took over the defunct People's Bank and Trust Company, and capitalized the new bank with $250,000. Edwin Mead, a nephew, is president of the bank.

Fred B. Herrick, 63 years old, a painter employed by the Kimberly-Clark Corporation, Neenah, Wis., suffered fatal injuries in a peculiar accident at one of the mills. He was painting at the third story, using a hanging platform. A truck which had backed up to the building below took with it as it departed a rope hanging from the scaffold and pulled the platform away from the building. Mr. Herrick fell thirty feet, suffering many bruises and broken bones.

Willard Boyce, foreman of the wood room of the Rhinelander Paper Company, Rhinelander, Wis., for 27 years, died last week at the age of 71 years, following an illness. He came to the company about the time the mill was being opened.

Northwest to Make Tub-Sized Papers

The Northwest Paper Company has recently installed at its Cloquet mill, equipment for the production of tub-sized offset stocks and index bristols as well as specialty papers. In addition, this mill will continue to furnish its established line of unsized papers.

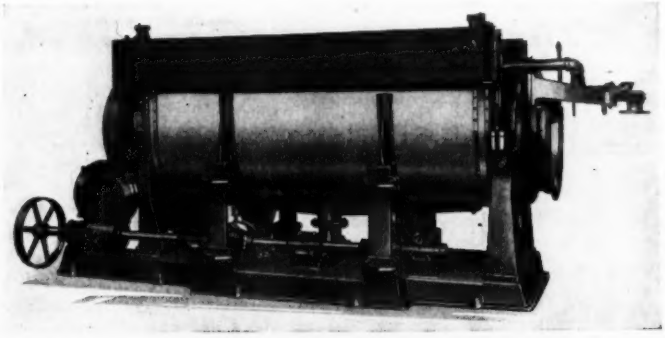
"Through the addition of equipment built to latest specifications for tub-sizing, The Northwest Paper Company is in a position to meet a demand which it heretofore has been unable to supply and welcomes an opportunity to submit samples to customers and prospects," according to I. L. Gartland, sales manager.

If you want Quality

—here is the simplest, most economical way to get it:

An increase in the capacity of your Bird Screen equipment permits a reduction in the size of the screen-slot and a remarkable improvement in paper quality.

Many mills have found this change a short-cut to new quality —and new profits. Let us show you how economically you can make it.



BIRD SCREENS

BIRD MACHINE COMPANY BIRD MACHINERY **South Walpole, Massachusetts**

4985

Boston Paper Market Shows Improved Tendency

More Activity Experienced In Fine Paper Section, With Writings, Bonds, Ledgers and Announcements In Somewhat Better Request—Kraft Wrapping Paper Moving In Seasonal Volume—Paper Stock Situation Practically Unchanged

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., September 21, 1931.—The wholesale paper market has shown a tendency to improve during the last week—in fact there has been a general upward swing to at least a slight degree since the early part of the month, particularly since the holiday. Many dealers have put through sales in fair volume and some in good volume. One fine paper dealer remarked that "orders which have been held up and were down at the bottom of the pile are being placed on top and prospective buyers are talking about them." There is a little better feeling among the trade.

Writings and announcement lines continue in good demand. Printers are placing more orders. Bonds and ledgers are asked for in fairly good amounts. Apparently, most, if not all of the dealers in fine paper are getting their share of the current business. Wrapping paper as a whole is slightly more active, with a greater volume of inquiries, besides orders, placed. At the local office of a mill, it was stated that kraft was moving a little better than in August, especially since the holiday.

The box board market continues firm, with a fair volume of orders. Call for material for shoe cartons keeps up, although possibly to a less extent, with the shoe trade tapering off seasonally. The call for candy boxes is apparently better, so that manufacturers of these lines are covering for requirements.

The paper stock situation is practically the same, with improvement in a number of grades, and others quiet. Grades which show an upward trend in value are white blank news, No. 1 kraft, manila, No. 1 mixed paper, print manila, overissue news, old newspapers and corrugated boxes. The twine market is generally fair.

Paper Merchants to Meet

At a meeting of the executive committee of the New England Paper Merchants Association it was decided to hold the first meeting of the organization for the year 1931-32 some time in October, on a date to be determined. The meeting, usually held the second Thursday in September, was postponed because a number of members were out of town.

News of the Trade

Massey & Wendell, Inc., have enlarged their quarters at 110 High street, including big storage space in the basement, and have removed their office to its former location on the fourth floor.

The D. F. Munroe Company, formerly at 299 Congress street, removed on September 17 to 289 Congress street.

The business of John Carter & Co., Inc., has been very much better so far this month, with a good amount of orders for fine paper.

A new line of the American Writing Paper Company, Revenue Bond, made in white only, is selling at 16½ cents, in units between the low-priced Sulphite Bond and their Acceptance grade.

The Oxford Paper Company, Rumford, Me., have made a general reduction in the prices of their coated grades of paper.

C. P. Tatum, of the Martin-Cantine Company, Saugerties, N. Y., called on the Boston trade last week.

O. B. Frostic, of the Albemarle Manufacturing Company, Richmond, Va., who went about New England last week, calling on the trade, with Blair B. Stringfellow, Jr., of the Boston office, has returned to Richmond.

"'Tis No Time to Be Choosy," and other timely suggestions to printers are among the features of the September number of "How," published by Tileston & Hollingsworth, and edited by A. V. Howland. The issue contains analyses of the September sheet of the Tileston & Hollingsworth calendar. A sample postcard on Milton yellow and another on Crinoline green are attached to each copy. The cover is Milton Cover, brown, and the paper Crinoline Super Plate, white.

Cohen Bros., Inc., Lowell, Mass., have incorporated to deal in metals, paper, junk, waste, etc. There are 500 shares, $100 each. The president is Max Cohen; treasurer, A. David Cohen, 119 Liberty street, Lowell, and the third incorporator is Bessie Cohen.

An involuntary petition in bankruptcy of the Thompson Box Company, Cambridge, Mass., September 15, is reported. Petitioned in by Armour & Co., $268; Storrs & Bement Company, $1,900; Baird & Bartlett Company, $363, all of Boston.

A meeting of some of the gummed tape manufacturers was held at the Hotel Statler, Wednesday, September 16, at which there was a representation of paper merchants.

Carlisle Interests Move to Watertown

[FROM OUR REGULAR CORRESPONDENT]

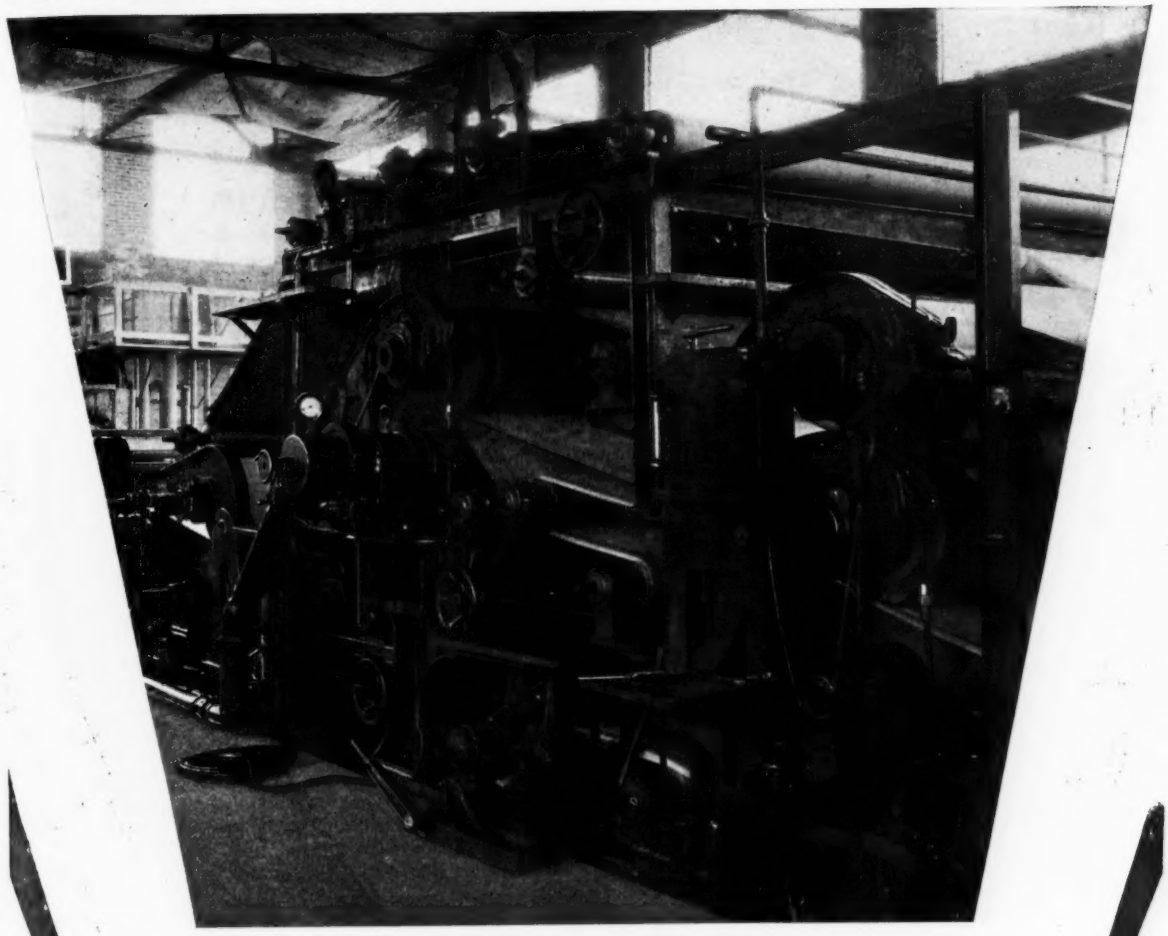
WATERTOWN, N. Y., September 21, 1931.—It was announced this week that this city is to be the headquarters for a large number of power corporations under the control of the Floyd L. Carlisle interests. A certificate was filed this week showing that the main offices of the Tri-River Power Corporation are to be moved from New York to this city. The company was incorporated in 1930. All of the stock of the company is owned by the Power Corporation, of New York, of which Mr. Carlisle is chairman of the board.

A change has also been made in the location of the Watertown offices of the St. Regis Paper Company, which have been moved from the Northern New York Trust Company Building to the Taggart Building. Within the past weeks the offices of several other concerns have been moved from New York to this city, among them being the Champion Paper Company, Moose River Power Company and the Carthage Power Corporation.

E. B. Murray Resignation Reported

HUDSON FALLS, N. Y., September 21, 1931.—It is reported that E. B. Murray has tendered his resignation as executive vice president of the Union Bag and Paper Company. Although no official announcement was given out it is understood that he has been desirous for some time of withdrawing his interest in the company. He is well known in this village where he is very popular with the employees. His future plans have not yet been learned but it is expected that he will take a well earned rest before considering any propositions.

DOWNINGTOWN



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Regardless of the kind of paper you make, the installation of Downingtown Adjustable Suction Rolls can undoubtedly be justified on a basis of production, economy or quality. This Suction Roll is installed in first press of the Downingtown Removable Fourdrinier at the A. L. Adams Paper Co., Baldwinsville, Mass. Other manufacturers of specialties have also found the Downingtown Suction Roll to be a sound investment. Our Catalog No. 103 completely describes the features of this modern suction roll. The Downingtown Manufacturing Company, Downingtown, Penna.

STANDARD NEWS PRINT DEFINITION PROTESTED

(Continued from page 13)

legislating body of the Government on this very point had failed.

In 1929, while the Ways and Means Committee of the House of Representatives was considering the bill which later became the Tariff Law of 1930, the Import Committee of the domestic manufacturers went before the Ways and Means Committee and proposed an amendment to the paper section of the Tariff Act so as to made dutiable papers below .003 of an inch in thickness and above .004 of an inch in thickness. Their request for legislation was rejected and then, within a few months after the Tariff Act passed, without notice to the consumers of news print, they went before the Treasury Department in a purely ex parte proceeding and obtained a decision from the Department granting to them the legislation which Congress refused.

In the case of the United States v. James P. Heffernan Paper Company, U. S. Court of Customs and Patent Appeals, decided April 29, 1929, the Court said:

> "No one will contend that the Secretary of the Treasury has any authority to legislate."

The Court further said:

> "It seems to us that the question as to whether imported paper is standard news print paper, under the rule laid down by this Court, is a question which is susceptible of proof."

The rule laid down by the Court is that "standard news print paper is only such paper as is chiefly used for printing newspapers." In so far as we know, there is no evidence before the Treasury Department to show that the chief use of paper ranging from .004 to .0045 of an inch in thickness is for purposes other than the printing of newspapers. Certainly, the Import Committee of the domestic manufacturers failed to satisfy Congress that it was. Yet, within a few weeks after Congress passed the Tariff Law without including their requested legislation, they obtained such a legislative act from the Treasury Department.

As stated before, the American Newspapers Publishers Association is interested in this problem of news print paper only from the point of view of publishers who requiry duty free news print for the use in publishing their newspapers. The association is not concerned with the problem of tablet manufacturers or other consumers of paper.

There is attached to this memorandum a list of some papers which, in December, 1930, used news print ranging from .0041 to .0045 of an inch in thickness. This list includes both weekly and small daily newspapers and it is presumed, in the absence of information to the contrary, that this list contains the names of papers not studied by the Treasury at the time of its investigation of the question.

So, while it seems apparent that the Treasury Department exceeded its functions when it attempted to legislate on this question of thickness after Congress had refused to legislate on it, nevertheless, if it persists in its view that it had a right to add further restrictions to its definition of standard news print paper, notwithstanding the legislative refusal to accept such restrictions, then it must be insisted that it is improper for the Department to refuse the free importation of paper used by more than 10 per cent of the publishers in this country, assuming, of course, for the purpose of this statement, that the survey made by the Treasury Department of 600 out of 22,000 papers was representative.

A few thoughts further on the question of thickness. No commodity is as susceptible to variations of atmospheric conditions as news print paper. During a period of extreme dryness, news print paper may run thinner than at normal periods; whereas, during a period of steady rain or extreme humidity, it undoubtedly will run thicker than during normal periods, so that with a hard and fast limit fixed by the Treasury Department as to its thickness, there undoubtedly will be many periods of the year when, because of atmospheric conditions, it will be impossible for importers to comply with the Treasury limitation.

Still another point. The manufacture of news print paper is not an exact science. No two machines in the same mill will produce identically the same grade of news print paper from the same mixture, and no one machine in the same mill will run off a roll of news print paper identical in all respects from beginning to end; and no one machine, during the course of a week's manufacture, will run off a series of rolls identical from beginning to end, even though the machine be handled in an identical manner on each day of the week and the mixture from which the paper is made be uniform throughout the week. To meet these conditions of variation in the manufacture of news print paper, it has long been customary in the trade for the manufacturers of news print to require a 5 per cent leeway from the purchasers of their news print on all orders for a uniform quality of paper, but this leeway has not been granted in respect to thickness by the Treasury Department in its definition.

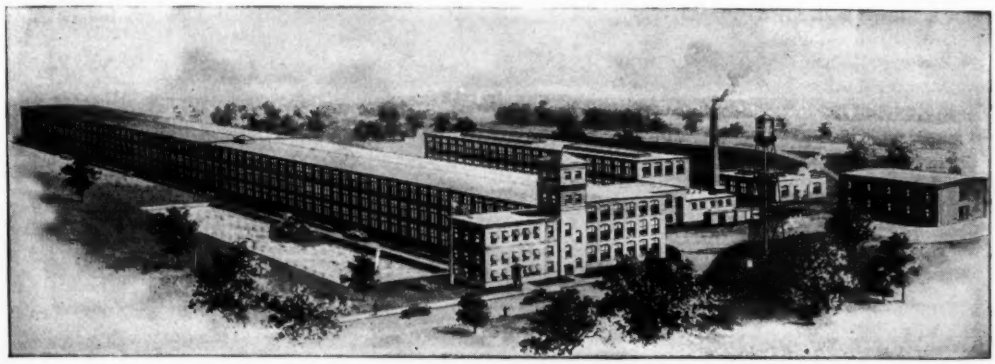
Rough papers are thicker than smooth papers. T. D. 40996 permits the free entry of paper weighing 35 lbs. Rough 35 lb. paper undoubtedly would exceed the .004 of an inch limitation fixed in T. D. 44317, and it is quite likely that calendared 35 lb. paper would do the same.

Much more could be said about this question, but the foregoing should convince the Treasury Department, first that it had no authority to legislate upon a subject after Congress had refused to legislate thereon, and second, if it be contended that it had authority to legislate, then the Department should be convinced that its legislation is erroneous and, in order to take into consideration the requirements of publishers, the limitation on thickness should be increased at least from .004 of an inch to .0045 of an inch.

While the Department did not put a minimum thickness on news print in T. D. 44317, nevertheless, it stated that .003 of an inch was the low limit of thickness used by newspapers in the United States. This undoubtedly was an erroneous conclusion based on inaccurate information. The *New York Daily News,* for instance, is the newspaper with the largest circulation of any newspaper in the United States. It consumes approximately 100,000 tons of news print a year, and much of its tonnage is less than .003 of an inch in thickness.

Administrative Abuses

Ever since the 1922 Act included standard news print paper on the Free List, publishers of daily newspapers have be constantly harassed by the activities of the policing organization of the domestic manufacturers known as the Import Committee. The Treasury Department at-



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While new developments in paper machines have been advancing at a rapid pace, machine builders have not overlooked any opportunity to improve pulp equipment.

Albany has kept in close touch with every new development and constant study has led to the perfection of all sorts of felt designs for use on every type of pulp-making machine.

Special designs for dry machines . . . for Rogers machines . . . for ordinary wet machines . . . for Kamyr machines.

If you are interested in improved felt-life and water-removal on your pulp machines, we suggest that you give us the opportunity of demonstrating what we can do for you.

ALBANY FELT COMPANY

ALBANY, NEW YORK

tempted to alleviate these conditions in T. D. 40996 when it provided that it did not deem it necessary

> "that samples shall be taken from every importation of paper claimed to be standard news print paper, and, therefore, unless there are circumstances connected with a particular importation or an inspection of the same raises the question whether the paper is within the limits of the above definition, no samples should be taken and there should be no delay in the delivery of such paper when consigned to newspapers, agents of newspapers, or those dealers whose business it is to furnish such paper to newspaper."

While this association does not believe that it is necessary at this time to go into detail about the activities of the Import Committee, nevertheless, it is pertinent to point out that, in 1929, the Import Committee informed the Ways and Means Committee of the House that, since the enactment of the 1922 Tariff Act, it had "assisted" the Customs Division in the prosecution of more than 4,000 cases in the United States courts, most of them dealing with standard news print paper.

Every time the Treasury Department amends or considers an amendment to one of its decisions respecting standard news print paper, there is a whirl of activity in the appraisers' offices at the various ports of entry. No conclusion can be drawn other than that this activity is due to the insistence of the Import Committee.

Recently, according to our information, the appraiser at New York drew samples from as many as 60 rolls in one shipment of paper, causing, in that particular instance, the destruction of more than two tons of the importation and damage to every roll which was inspected. The samples were not taken from the outside of the rolls but the rolls were stripped down in so that the appraiser might get what he termed representative samples. And it is reported that the appraiser stated at that time that even if, in a consignment of news print paper, for use in the publication of a newspaper, which came through his port, 90 per cent of the consignment complied in every respect with the Treasury Department decisions defining standard news print paper, nevertheless, if 10 per cent or more or less of such a consignment should not comply in one of the many particulars, he would feel compelled to assess duty thereon.

In the past, this association has called to the attention of the Treasury Department the very great damage done to its members by such practices at the ports of entry. At one period, every car which came across the Canadian Border was opened, unloaded and sampled. The cars were sealed when they reached the port of entry; they were not sealed when they left, and tremendous damage was done to the rolls of news print paper by this particular method of handling. Of course, when the Department's attention was called to that practice, an immediate end was put to it, but in view of the recent activities at the ports of entry, it would appear that the Department again should instruct its subordinates to adhere to the spirit of that proviso in T. D. 40996 which permits the free and uninterrupted entry of news print paper consigned to newspapers or for use in the publication of newspapers without unjustified delay or injurious inspection.

Addenda

While the above statement should be conclusive as to the necessity for the amendment of T. D. 40996 with respect to the width of rolls, and for the revocation of T. D. 44317 with respect to the thickness of news print paper, there are attached to this memorandum a partial list of newspapers which, during one month after T. D. 44317 went into effect, used news print paper in excess of .004 of an inch in thickness, and also a copy of a brief filed by this association with the Committee on Ways and Means of the House of Representatives in February, 1929.

The list of newspapers is relevant to this issue. The brief is more informative as to the difficulties to which newspapers have been subjected than to any feature of this discussion other than the particular feature as to the question of thickness. The brief should be conclusive evidence as to why the Import Committee failed to get its legislation on thickness from Congress and why the Treasury Department should now rescind its legislative act on that question.

A. D. Quinn Dead

His hosts of friends will be profoundly shocked to learn of the sudden death on September 17 of A. D. Quinn, sales manager of the Industrial Division of the L. H. Gilmer Company, Philadelphia. Mr. Quinn was in Chicago on a business trip when the end came, due to heart disease. His passing will prove to be an irreparable loss to his many friends and business associates.

Mr. Quinn was born in Camden, N. J., January 13, 1887. In October 1919 he became associated with the Gilmer Company and in 1922 was placed in charge of the sales of the Industrial Division. Under his splendid leadership this division showed phenomenal growth. To him belongs a major share of the distinction of placing the Gilmer V-Belt, along with other industrial products in the prominent position which they now occupy in the industrial world.

Anyone who was fortunate enough to have known A. D. Quinn intimately has been impressed with the great wealth of love he had for his fellowman. His willingness to help others, his genial and magnetic personality, and his devotion to duty has endeared him in the hearts, literally, of thousands of men with whom he has come in contact.

Mr. Quinn's home life typified the man. Here truly was a sanctuary of harmony, happiness and love. He will ever be mourned by his widow, his son Bob, age 18, and daughter Maybelle, age 20.

Paper Co. Installs Printing Press

A despatch from New Westminister, B. C., announces a new departure by the Westminister Paper Company there by the installation of a new two-color high-speed printing press to use in connection with the printing of fruit wrappers. The machine has a capacity of approximately 20,000 sheets an hour. Twenty wrappers are cut from each sheet, making the capacity of the press between 400,000 and 500,000 wrappers per hour.

In this connection it is interesting to note that shipments of Australian oranges recently reached Vancouver, the wrappers for which were supplied by the Westminister Paper Company. In addition, the orange boxes were made from British Columbia lumber, which was supplied by a New Westminister mill.

Paper Mill Employment

Decreases in both employment and payrolls are shown in the paper and pulp and paper box industries for June as compared with May according to figures in the hands of the Bureau of Labor Statistics, Department of Labor.

Reports were received from 383 paper and pulp mills who gave their May employment at 79,558 decreasing in June to 78,019 a decrease of 1.9 per cent. Weekly payrolls in these same mills also decreased from $1,911,185 in May to $1,808,375 in June a decrease of 5.4 per cent.

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TRANSITE ASBESTOS HOODS

Transite, an exclusive Johns-Manville product, is literally "stone lumber." It is this Transite Asbestos with structural steel that is used in the construction of the Ross Machine Hoods—a most important feature that recommends them for insurance of

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Ross Transite Hoods Are Shipped In Panels Ready For Assembly, with minimum labor expense. They permit easy access to dryers and do not interfere with normal operation of machine. Descriptive bulletin on request.

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CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Shelton, Wash.—The Rainier Pulp and Paper Company, San Francisco, Cal., has completed plans for construction of a one-story addition to plant at Shelton, 60 x 160 feet, to be used for storage and distributing service, and has awarded general contract to the Austin Company, Dexter-Horton Building, Seattle, Wash. It is reported to cost close to $40,000, with equipment. Superstructure will be placed under way at once.

Fredericksburg, Va.—The Sylvania Industrial Corporation, New York, has work nearing completion on new units at its mill at Fredericksburg, and expects to have the structures ready for occupancy at an early date. Equipment will be installed at once and full capacity developed. The expansion consists of three new buildings, one and two-story high, to be used for production of transparent cellulose paper specialties. General contract has been carried out by the Hughes-Foulkrod Company, Schaff Building, Philadelphia, Pa.; structural steel was furnished by the Belmont Iron Works, Philadelphia. The new additions will represent an investment of close to $1,000,000, with machinery. The Ballinger Company, 12th and Chestnut streets, Philadelphia, is architect and engineer.

North Wilbraham, Mass.—The Collins Manufacturing Company, Suffolk street, Holyoke, Mass., has awarded a general contract to the Casper Ranger Construction Company, 6 Newton street, Holyoke, for the erection of proposed new power plant at mill on Main street, North Wilbraham, and will begin foundations at once. New unit will be of brick and steel type, estimated to cost close to $50,000, with power equipment. McClintock & Craig, 458 Bridge street, Springfield, Mass., are architects and engineers.

Boston, Mass.—Fire recently damaged a portion of paper box manufacturing plant of the John R. Gray Company, 508 Dorchester avenue. An official estimate of loss has not been announced, but is reported as slight. The damage will be replaced.

Martinez, Cal.—The Armstrong Cork Company, Lancaster, Pa., manufacturer of cork board, insulation board and kindred products, has concluded arrangements for purchase of large tract of land at Martinez, as site for a new branch plant for Pacific Coast trade. Plans will be placed under way at early date for initial units, consisting of two or three buildings, with power house, pumping station and other mechanical structures, estimated to cost close to $1,000,000 with machinery.

Chillicothe, Ohio—Under the direction of Jose Martinez Estape, a Spanish engineer, the Mead Corporation, Chillicothe, has experiments under way at its mill for the use of brava cane, or wild Cuban cane, resembling bamboo, for paper pulp service. The work is being conducted on a sizable production basis, following laboratory work, with batches of 50 and 60 tons of material. Brava cane grows abundantly in Cuba and has heretofore had no useful purpose. The material is handled for pulp conversion under a new process and is said to have been proven valuable for paper manufacture of different kinds.

Brewer, Me.—The Bangor Box Company, 75 South Main street, Brewer, has awarded a general contract to the Otto Nelson Company, 194 Exchange street, Bangor, Me., for the rebuilding of portion of storage and distributing building, as well as other parts of plant recently damaged by fire. Work will be placed under way at once and is reported to cost over $30,000, with equipment. Frederick A. Patterson, 16 Central street, Bangor, is architect, in charge.

Marrero, La.—The Celotex Company, Chicago, Ill., is holding to a good production schedule at its large mill at Marrero, near New Orleans, for production of insulating board, wallboard and kindred products, and giving employment to a large working force. It is said that the present schedule will be continued for an indefinite period. The company is arranging for a reduction in common stock from $7,321,550 to $1,382,550.

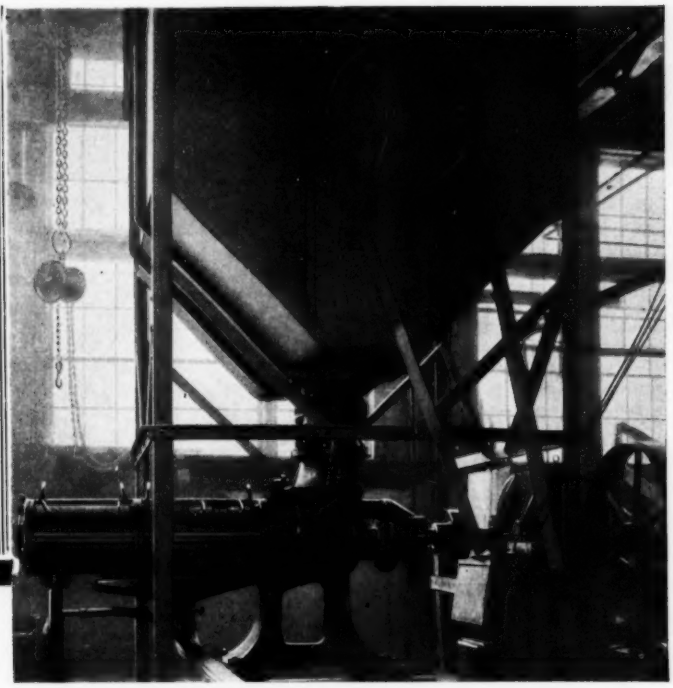
Evansville, Ind.—The Keller-Crescent Paper Company, 216 Locust street, has work in progress on a new one-story plant unit, 50 x 100 feet, and will push superstructure to early completion. The work is reported to cost close to $35,000, with equipment. Erection is in charge of the M. J. Hoffman Construction Company, 20 N. W. Fourth street, Evansville, general contractor.

Cleveland, Ohio—The Industrial Rayon Corporation, West 98th street and Walford avenue, is said to have plans well advanced for the production of transparent cellulose paper materials, and will devote a considerable portion of output to this specialty. The new product is non-burnable and tasteless, and is suitable for wrapping food products as well as other goods. Facilities will be provided for the new line of manufacture. Hiram S. Rivitz is president.

Wellsburg, W. Va.—The Harvey Paper Mills Company, Wellsburg, manufacturer of rope, paper specialties for bag production, etc., is said to have completed arrangements for the erection of its proposed new two-story addition, 35 x 70 feet, and superstructure is scheduled to be placed under way at an early date. The unit will cost about $40,000, with equipment. The company is a subsidiary of the Pillsbury Flour Mills, Metropolitan Life Building, Minneapolis, Minn.

Sault Ste. Marie, Ont.—The Abitibi Power and Paper Company, Toronto, Ont., is placing the fourth paper-making machine in service at its news print mill at Sault Ste. Marie, and it is expected that the plant will be on a close to normal full-time schedule by October 1. This is the first time that capacity operation has been under way since last November.

Three more recent repeat orders tell the users' story.



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Much interesting information has been assembled from actual runs on our testing installation in our plant. Much data from numerous mill installations has also been compiled.

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Perhaps your dewatering equipment is in good shape. However, the money-saving advantages of the Screw Press have made other methods obsolete and costly. It's merely a matter of sound business judgment to get all the facts about this machine, and no investigation is complete until you have consulted our technical and operating men.

Write the Valley Iron Works Co., Appleton, Wisconsin, about your dewatering. We shall be glad to run confidential tests for you in our own plant.

PAPER TRADE JOURNAL
ESTABLISHED 1872

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PULPWOOD FROM NEW SOURCES

The pulpwood industry in the United States, according to census reports and other statistics, is undergoing a remarkable change in respect to the use of raw materials, says the New York State College of Forestry, Syracuse, N. Y.

Spruce, which at one time was looked upon as almost indispensable in the manufacture of pulp, is becoming less important. This is reflected in the fact that for the last fifteen years the use of spruce for pulpwood has remained almost stationary. In fact in 1929 less spruce was used for pulp in the United States than in 1916, but the total pulpwood consumption by the industries in the United States increased over two million, two hundred thousand cords during that period.

The increase is due to the fact that new methods developed through research have made possible the use of various species of woods. This is indicated by the fact that the use of hemlock has more than doubled since 1914, the use of Western hemlock having greatly increased. As a general rule, hemlock is taken into the pulp mills in the form of timber but a large quantity is now accepted in the form of sawmill waste. During the last three years the use of mill waste has also doubled.

In the South another innovation has developed to such proportions that it is becoming an important factor as a source of pulp, namely, the use of Southern pine. During the last eight years the quantity of Southern pine consumed in the manufacture of paper has very nearly quadrupled. Thus, extensive employment of hemlock and pine and to a lesser extent other woods, especially hardwoods, has made spruce a less important factor in the manufacture of pulp in the United States. No other nation has used so extensively the so-called inferior species of wood in the production of pulp.

CANADIAN I. P. REPORT

The Canadian International Paper Company reports for the six months ended June 30, net revenue available for interest and depreciation of $2,191,742 compared with $2,358,745 for the corresponding period of 1930. The figures for the first six months of this year reflect the $5 a ton reduction in news print prices, retroactive to January 1, announced in the spring.

For the twelve months ended June 30 net revenue available for interest was $5,369,506 before depreciation or nearly three and one-half times interest on the Company's first mortgage 6% bonds and prior liens.

Despite the price reduction this year, net revenue from the sale of news print, available for interest and depreciation, in the first six months of this year, was substantially greater than in the corresponding period of last year. This improvement was, however, offset by lower revenues from the sale of bleached sulphite pulp due both to lower prices for this commodity and to a sharp curtailment in operation of the pulp mills during the early months of the year.

This year, however, the Company placed on the market a new grade of rayon pulp under the trade name of "Kipawa Extra." This new pulp has been well received by the rayon industry and Kipawa mill now has orders on hand from domestic and foreign rayon manufacturers sufficient to assure a highly satisfactory rate of operation for the rest of the year.

Funded debt was decreased $263,000 in the first six months of this year through the action of sinking funds and small maturities, funds for these purposes being obtained from current earnings. The Company also retired the entire balance due International Paper Company for construction advances which at the end of 1930 stood at $4,831,052.

At June 30, 1931, the Company had no bank loans and no other current indebtedness except accrued interest and trade obligations together amounting to only $1,315,666. Net working capital amounted to over $17,000,000 and the ratio of current assets to current liabilities was over fourteen to one.

NEWS PRINT IN ANTIPODES

A despatch from Vancouver states that news print manufacturers on the Pacific Coast fear that the new trade agreement with Australia will not be of such an important benefit as was first supposed. Although Canadian news print and British news print are now on an equal footing in the Australian market, to the disadvantage of other producing countries, chiefly Scandinavian, the fact that payments are made not in Canadian but in Australian currency is disadvantageous. News print manufacturers have to meet such a heavy discount on Australian payments that the result of the preference is declared to be actually insignificant.

J. H. McDonald, of New Westminster, B. C., who headed the lumbermen's delegation to Australia last year, says:

"Another point is that Scandinavian competition in the

news print trade of Australasia has been unimportant in recent years. Our chief competitor is the British Isles, and we are on an equal footing there. In other words, we have no advantage over the only serious competitor and consequently we are really no better off than we were before.

"As a matter of fact, we are probably much worse off, because there are possible consequences of this trade agreement that will work out very much against us. Under the terms of the agreement Canada gives preference to Australian butter. Well, it so happens that Australia and New Zealand are rivals in the butter trade and this preference to Australia has greatly upset the New Zealanders. The New Zealanders feel they have been slighted and retaliation from that quarter seems inevitable."

New Zealand has become an important buyer of British Columbia news print in recent years and if retaliation is resorted to it would mean serious loss, especially at this time. Manufacturers are now shipping to New Zealand on contracts negotiated nearly a year ago, but new contracts have to be entered into in October and it is feared that the threatened retaliation will then be felt to some extent. The chief hope lies in the possibility of negotiating a trade agreement between Canada and New Zealand similar to that with Australia, which would remove the unpleasantness about butter, which is one of New Zealand's principal exports. Premier G. W. Forbes of New Zealand, has extended an invitation to the Canadian Government to send a representative to New Zealand to confer on such a measure, and it is probable that something along this line will be done during the next few months.

Research on Paperboard Containers

Dr. Edward R. Weidlein, Director, Mellon Institute of Industrial Research, Pittsburgh, Pa., has announced that an Industrial Fellowship for research on moistureproofing and greaseproofing paper boards used in cartons and boxes has been established in that institution by the Robert Gair Company, of New York, N. Y. Recent progress in package merchandising has indicated, he pointed out, a growing need for paper board containers with improved moistureproofing and greaseproofing qualities, and he said that it is the hope of the Robert Gair Company, the donor of the Fellowship, and of Mellon Institute that technically valuable advances will result from these studies.

Dr. Marion D. Coulter has been appointed a fellow of the Institute, to conduct these scientific investigations. He is a specialist in organic chemistry and during the period 1925-1930 held a Mellon Instiute fellowship for the study of certain problems in cellulose technology.

According to Dr. Weidlein, Dr. Coulter's new research on perfecting moistureproof and greaseproof paperboards for packages will be of interest to many industries. If successful, the investigational developments are expected to make possible important economies and improved efficiency in distribution, as well as to act as a further stimulus to the growth of package merchandising.

TAPPI Delaware Valley Section Formed

[FROM OUR REGULAR CORRESPONDENT]

In a well attended meeting at Shoyer's Restaurant in Philadelphia, the local members of the Technical Association of the Pulp and Paper Industry organized themselves into a proposed section of TAPPI. Following the dinner, W. M. Shoemaker, Jr., secretary of the National Vulcanized Fibre Company, presided as temporary chairman and welcomed the members from Delaware, Pennsylvania, and New Jersey. Harvey P. Cannon, of the Container Corporation of America, read a report of the preliminary meeting held in May and of the meeting of the organization committee in September.

The proposed section by-laws were then considered and adopted by the members. It was voted to name the organization the Delaware Valley Section since such a name quite definitely indicates the area served by the section. The election of officers resulted as follows:

Chairman, W. R. Maull, vice president of Dill & Collins Company, Philadelphia; Vice Chairman, Dr. G. E. Dandt, chief chemist of the Continental-Diamond Fibre Company, Bridgeport, Pa.; and Secretary-Treasurer, Harvey P. Cannon, chemist of the Container Corporation of America, Manayunk, Pa.; Executive Committeemen, J. H. Hazelwood, of the Barber Asphalt Company, Gloucester City, N. J., and C. W. Rivise, patent attorney, Philadelphia, Pa. Announcement will soon be made concerning committee appointments.

The first paper read was by Jacob Edge, secretary of the Downingtown Manufacturing Company, one of the TAPPI company members. The title of the paper was "The Extractor Roll in Paper Board Manufacture." Mr. Edge outlined the various methods used to remove water from the sheet on a cylinder machine. These included the use of suction boxes and suction rolls and weighting the couch roll. The extractor roll is similar to a cylinder mould but is stronger and has greater rigidity. It is 24 inches in diameter. The rubber covered roll on top of it is weighted and exerts a pressure of from 70 to 90 pounds per lineal inch. By use of the extractor roll water may be removed from a thick sheet of slow stock.

Some of the advantages cited included (1) speeding machine, (2) increase in bulk of board since less pressure is later required in calender stock, (3) improved finish, (4) felt saving since suction boxes produce a drag on felts and tend to narrow them, (5) increase in Mullen strength board. It is predicted that later extractor rolls may be used in series and may possibly eliminate the use of wet felts.

The second paper was by W. L. Campbell, of the Mine and Smelter Supply Company, whose subject was beating with rods in the Marcy mill. Mr. Campbell outlined the results of using the mill for beating ground wood screening, straw and sulphate pulp. The opinion was expressed that the rod mill can replace beaters but jordans will be needed to supplement its work.

The meeting closed with a talk by R. G. Macdonald, secretary of the Technical Association, who briefly indicated some of the factors that would assure the success of the new section.

Norwegian Lockout Ended

WASHINGTON, D. C., September 23, 1931.—The lockout in the Norwegian industries has been terminated and work resumed according to a radiogram to the Department of Commerce from Commercial Attache Lund, at Oslo. Workers are reported to have accepted a reduction of between five and eight per cent in wages.

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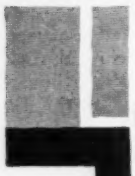

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Section of the
Technical Association of the Pulp and Paper Industry
Edited by Ronald G. Macdonald, Secretary

Deinking Waste Paper Stock*

Charles A. Shubert[1]

A review of the literature on deinking waste paper indicates that one of the first methods was the vomiting type of cooker which consisted of a steel tank fitted with a false bottom, and a centrally located vomit pipe up through which the liquor circulated—giving a volcano effect—then showering over the paper stock, down through which the liquor percolated to be raised again through the vomit pipe to the top by means of steam, or a pump. A disadvantage of this method was the non-uniformity of circulation of liquor through the mass of paper, resulting in uncooked paper.

Another early method was the use of the covered Hollander washer in which the entire operation was completed, i.e., cooking, defibering, washing and bleaching. This method, like the above, met with little success because output was small due to the low capacity of these washers and the time required to finish a batch. There was also the possibility of a spotty product, because of the lodging of uncooked paper in the washer.

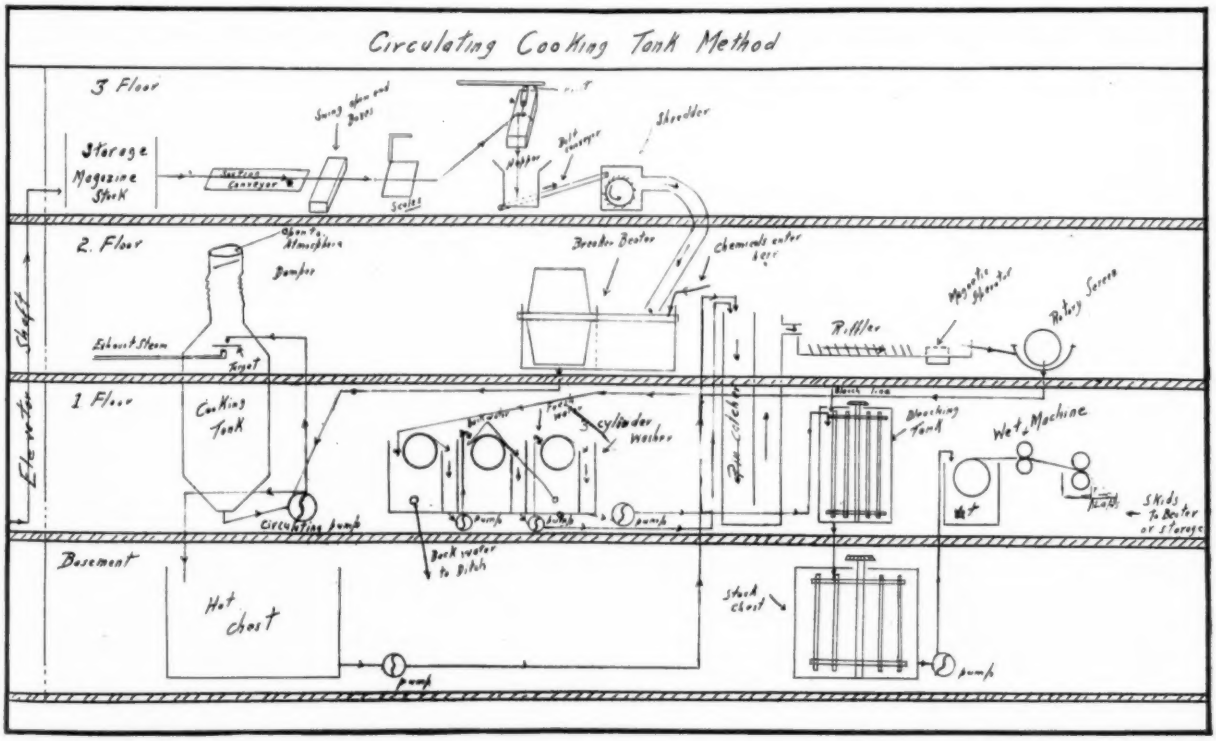
Rotary boilers were next used, followed by the development of the Winestock process. Modifications of the latter are in general use today.

The modified method chiefly used is the outside circulation of the stock by means of a centrifugal pump through a cooking tank, on the inside of which the discharge from the pump strikes a target. This method accomplishes two purposes,—the stock is cooked and defibered at the same time.

This paper deals with comparisons between the rotary boiler and circulating cooking tank methods.

In the case of the former, in our particular mill, the procedure is as follows:-

* Presented at the fall meeting of the Technical Association of the Pulp and Paper Industry, Kalamazoo, Mich., Sept. 24-26, 1931.
Contribution of the Alkaline Pulping Committee.
[1] Member TAPPI; Asst. Superintendent, Dill and Collins Co., Philadelphia, Pa.



The type of raw stock used is ledger, writing and bond, and the specifications on which read to consist of 60 per cent white ledger, balance light colors to contain no kraft, manila, shavings, cuttings, and not more than 3 per cent of ground wood, tare not over 3 per cent.

The bales of this material are opened on each side of a 23-foot long conveying apron onto which women sorters sort the raw stock. The apron conveys the sorted material to a railroad duster which, in turn, discharges to a rotary duster. The housing of the duster is under suction to remove dust, the heavier material dropping to the floor underneath. From the rotary duster the stock is conveyed by another apron (on which it gets a final inspection) to any one of four rotary boilers. These boilers hold 9400 pounds of dry paper. 2400 gallons of water, along with 350 pounds of caustic soda are pumped into the boiler and when full cooked at 30 pounds pressure for four hours. At the end of the steaming period the steam is shut off and the boiler allowed to rotate for another four hours, when it is emptied.

The caustic soda charge is equal to 3¼ per cent based on the dry weight of the paper.

Caustic soda is used in preference to soda ash, because of its greater saponifying effect on the hard sized stock, and on the binder in the ink.

Stock Washing

The rotaries are emptied to a chest from which the cooked stock is pumped to any one of four Hollander washers, (2000 pounds capacity), where the stock is washed and any paper not broken up in the cooking is completely defibered.

The cooked stock is washed with fresh water for two hours, then bleached with 6½ per cent of bleach—the bleach strength being 30 grams per liter of chlorine. The stock is allowed to bleach one hour, then washed ¾ hour, then pumped to a chest from which it passes through a pin catcher, which consists of a vertical tank thirteen feet deep, by two feet square. This tank is divided through its entire depth by a partition to within twelve inches of the bottom. The stock passes down one side of the partition, through the opening in the partition in the bottom, then up to within four feet of the top of the tank where it leaves the side of the tank and flows to two rotary screens, thence to an eighty-six inch wet machine where it is thickened and doctored off in wet laps and conveyed to storage for use in the beaters.

The pin catcher serves the same purpose as a riffler and is very effective in the removal of pins, clips and the like.

White water from the wet machine is used for diluting the stock in the pin catcher. This plant handles fifteen tons of ledger stock in 24 hours. Total shrinkage is 20 per cent.

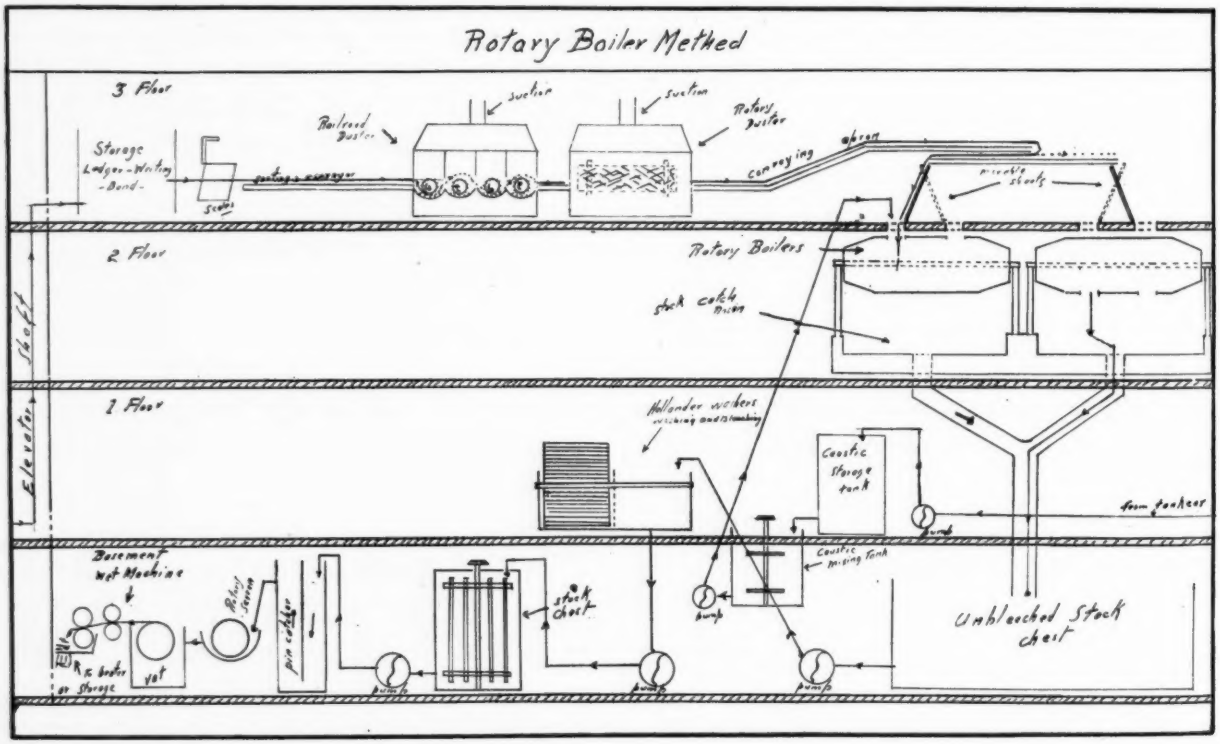
The cost per ton of the various items is distributed as follows:

Raw Materials (20% shrinkage)	66.3%
Labor	13.7%
Electric Power and Steam	6.8%
Chemicals	12.9%

In the second, or circulating cooker method the raw material is flat magazine stock. The sorting is done by women who sort the material into boxes, approximately 4 x 4 x 6 feet long, which when full are trucked to the hopper of a Mitts & Merrill shredder into which they are dumped. The shredder discharges through an opening in the floor into a breaker beater on the floor below, where hot water and soda ash is added; 6 per cent of the latter being used. The stock is allowed to circulate in the breaker for one hour. A breaker charge is 1600 pounds. Temperature 160-180 deg. F.

From the breaker the pulped stock drops to either one of two cooking tanks. These cookers are 8 feet 6 inches in diameter, by 20 feet 6 inches overall, and are vented to the atmosphere and have conical tops and bottoms. The stock is circulated by means of a centrifugal pump which draws from the bottom and discharges into the top, striking a target which aids defibering. The circulating period is of two hours duration. Exhaust steam is used in both the breaker and cooker. The cooked and defibered stock is then dropped into a concrete hot chest, in the basement, from which a plunger pump pumps the stock to a riffler which is 4 feet by 50 feet long, thence to two rotary screens, and from the screens to a 100 inch wide Thompson washer.

The washed, thickened stock is then diluted and pumped to either



of two bleaching tanks, fitted with agitators. Three per cent of bleach is used. The bleaching period lasts one hour and the bleached stock is then dropped to a bleached stock chest where 0.8 per cent of antichlor is added to neutralize any residual bleach, and is then pumped to a wet machine for thickening and is doctored off in laps for use in the beaters. In the washing of the cooked stock fresh water is added at the number 3 mold on the Thompson washer. The back water from the number 3 mold is used for washing in the number 2 mold, and the back water from number 2 mold is used for diluting the stock at the riffler. The back water from the number 1 mold is ditched. Fresh water is used on showers of the rotary screen and on the wet machine. Shrinkage on this grade of stock runs about 30 per cent. The main reason for the higher shrinkage in this case is because of the presence of much coated paper in the magazine stock, the clay of which is largely lost during the washing operation.

The costs per ton of the various items are distributed as follows:

	Circulating Cooker		Rotary Boiler Type
Raw material (30% shrinkage).....	66.5%	(20% shrinkage)	66.3%
Labor	11.2%	.....	13.7%
Electric power and steam	11.1%	.....	10.1%
Chemicals	10.1%	.....	12.9%

In conclusion, we would say that from our experience we favor the rotary boiler system in spite of its higher labor and power cost, and inconvenience of filling and dumping boilers, because of the superior quality of product obtained. It being largely a batch system we have better control of the color and cleanliness in the washing and the bleaching. The point may be raised that it is unfair to compare ledger with magazine. Here it might be said that we have used magazine stock in the rotary system and have obtained a superior product to that made with the circulating cookers.

Report Of Paper Testing Committee*

This meeting in Kalamazoo has particular significance in respect to the activities of the paper testing committee, because the meeting in this city six years ago marked the first announcement of a plan for establishment of official paper testing methods by the association. The details of the plan originated by the committee, and based essentially on the procedure of the American Society for Testing Materials, had been carefully evolved during the preceding summer in cooperation with the then association secretary, W. G. McNaughton, and the committee had been organized into subcommittees each dealing with a particular type of test.

Adopted as Official Plan

This plan operated satisfactorily and was later adopted by the association for the establishment of official testing methods of all kinds. Without doubt, it has been helpful in giving the association its internationally recognized leadership in standardization of testing methods related to paper. The adoption, essentially, of the A. S. T. M. standardizing procedure has promoted the present satisfactory cooperative arrangements with that important standardizing body, whereby conflicting standards, and duplication of effort are largely avoided.

Twenty-eight Official Methods

There are now twenty-eight official paper testing methods, which cover all of the most commonly used physical, chemical and optical tests. Being based largely on existing practice, progress in their establishment was rapid. As the establishment of new methods requires in each case more or less research, the present progress is necessarily much slower. Sub-committees have struggled with the difficult problems of testing resistance to liquids for several years. A proposed method for the use of the dry-indicator test will be presented at the next annual meeting by P. W. Codwise, chairman of the sub-committee on water resistance. Similar progress has been made with grease resistance under the direction of R. C. Griffin, and his successor, A. T. Randall. The sub-committee on resistance to printing inks, B. L. Wehmhoff, chairman, has developed considerable data on this subject. The sub-committee on chemical methods, under P. F. Wehmer, is actively studying the following methods related to permanence of paper: alpha cellulose, copper number, acidity, and content of iron and copper.

Research on Testing Methods

In addition to the sub-committees' activities, researches on testing methods are being conducted by other organizations, the results of which will be available for committee use. Those at the Forest Products Laboratory and at the Bureau of Standards are of particular interest as they relate either directly or indirectly to means for measuring the serviceability of paper as regards resistance to wear. The association has established official methods for measuring the relative resistance of paper to certain physical stresses, but unfortunately these stresses are only vaguely related to those which paper encounters in service. An illustration of this occurred in connection with the new type of currency paper developed by the Bureau of Standards. According to the folding test, this paper should have about 300 per cent greater service life than the type previously used, but as a matter of fact, it has only about 40 per cent greater life. For this reason, the bureau is endeavoring to develop a wear test which will simulate the crumpling, surface abrasion and repeated folding without high tension, to which paper of this kind and other kinds is ordinarily subjected in service. The work of the Forest Products Laboratory on the fundamental structural properties of paper is another logical approach to development of real serviceability tests. These considerations are mentioned to arouse interest in improving existing testing methods and in devising more adequate methods, rather than being content to accept as fixed things the methods we have temporarily established because they were the best available at the time.

Annual Meeting Program

The following tentative program for the sectional session on paper testing at the 1931 annual association meeting promises a very interesting session:

1. Reports of sub-committees on projects outlined above.
2. The Determination of Rosin in Paper, E. Sutermeister.
3. The Determination of Unbleached Sulphite in Paper, E. Sutermeister.
4. Factors Affecting Results Obtained with Penescope Size Testers, C. E. Libby.
5. Study of the Bursting Strength Test, James d'A. Clark.
6. Hygrometry in Paper Testing, F. T. Carson.
7. Development of Standard Practice for the M. I. T. Folding Endurance Tester, L. W. Snyder.

Arrangements have been made with Secretary Macdonald to publish the papers for the paper-testing session sufficiently in advance of the meeting to permit giving practically the entire time to discussion of them.

B. W. Scribner, Chairman.

* Presented at the fall meeting of the Technical Association of the Pulp and Paper Industry, Kalamazoo, Mich., Sept. 24-26, 1931.

Training Problems In The Pulp And Paper Industry*

By Harold G. Noyes[1]

During the past four years the Education Committee of the Technical Association of the Pulp and Paper Industry has been considering problems within the industry, the solution of which may be accelerated by the development of well organized educational programs. To accomplish this the pay roll jobs in the industry have been classified in accordance with the objectives of each.

The definitions and objectives of the various phases of educational work have been set up. Efficiency factors for measuring programs of vocational education have been determined. A survey of the various types of educational programs now in existence throughout the country has been made.

Classification of Jobs

In making up the major divisions the general plan as used by the Technical Association in its organization has been used. Major divisions of the industry are considered as follows:

1. Management.
2. Operating
3. Engineering
4. Technical Control
5. Research and Development

I. Management[2]
1. Major executives including the superintendent's level and above.
2. Minor executives including the foreman.

II. Operating[2]
1. Production or operating jobs.
a. Raw materials and pulp manufacture.
(1) Collection, transportation, handling, and preparation of raw materials.
(2) Mechanical pulp
(3) Sulphite pulp
(4) Sulphate pulp
(5) Soda pulp
(6) Other pulping operations
b. Paper Manufacture
(1) Absorbent
(2) Boards
(3) Building
(4) Card Board
(5) Cover
(6) News
(7) Tissue
(8) Wrapping
(9) Writing
Finishing
(1) Supercalendering
(2) Rewinding
(3) Cutting
(4) Sorting and Inspecting
(5) Sealing and Wrapping
(6) Special finishing operations
Conversion
Operations necessary for producing special types of paper products, as—
(1) Bag specialties
(2) Bottle caps
(3) Bread wrappers
(4) Can liners
(5) Envelopes
(6) Napkins
(7) Plates
(8) Towels, etc.
2. Maintenance jobs[2]
Includes erection, repair, inspection, installation, construction, and upkeep of machinery and equipment.
a. Motive power machinery
b. Power transmission equipment
c. Production tools and equipment
d. Pumping machinery
e. Piping systems
f. Transportation equipment
g. Maintenance tools and equipment
h. Buildings and yards
3. Service jobs[2]
Included under this classification are all payroll jobs which do not come under other headings. A few type jobs are listed below.
a. Clerical help
b. Time keeping
c. First aid and nursing
d. Fire department
e. Janitors, etc.

III. Engineering[2]
1. Light, heat, and power
a. Steam
b. Water
c. Electric
d. Hydro-electric
e. Steam-electric
2. Equipment
a. Selection
b. Machinery design and construction
c. Installation
3. Construction
a. New buildings
b. Remodelling

IV. Technical control[2]
1. Technical director and staff
2. Central laboratory
3. Testing stations

V. Research and development[1]
1. Type jobs in research
a. New raw materials
b. New processes
c. New products

Education[2]

For purposes of setting up the scope of educational work as it pertains to the pulp and paper industry, education is divided into two major fields:

1. General
2. Vocational

General education includes the training in reading, writing, and mathematics necessary to the successful discharge of the responsibilities of an employee in the industry and as a citizen in the nation.

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* Presented at the fall meeting of the Technical Association of the Pulp and Paper Industry, Kalamazoo, Mich., Sept. 24-26, 1931.
Contribution of the Education Committee.

[1] Member TAPPI, Coordinator for pulp and paper education, Wisconsin Vocational Schools, Appleton, Wis.

Vocational education as far as the pulp and paper industry is concerned is that type of education and training which meets any one or more of the following objectives:

1. To assist individuals already employed in the industry to add to the special knowledge and skill appertaining to their work and thereby—(a) improve their prospects for steady and permanent employment; or (b) prepare themselves for promotion or advancement.
2. To prepare individuals for profitable and advantageous entrance into the industry with known marketable assets in the way of special knowledge and skill.

Efficiency Factors in a Pulp and Paper Education Program of the Vocational Type[2]

Vocational type[3]

An educational program of the vocational type in the pulp and paper industry is likely to be efficient in proportion as—

1. The training is given selected groups of individuals who definitely expect to use the knowledge and skill gained in earning a living.
2. The instructors are occupationally competent and can effectively teach what they know and can do.
3. The objectives for each stage of the training are clearly defined and thoroughly understood.
4. The necessary facilities for carrying on the training have been provided, such as buildings, equipment, materials, tools, and jobs.
5. The working conditions are sufficiently favorable to make it possible to do a good job of training.

Training Agencies, Definitions, and Objectives

1. Agencies for preparing individuals for trade entrance
   a. Universities and colleges, public and private
   b. Institutes offering work of college grade
   c. High schools
   d. Vocational schools
   e. Cooperative part-time schools
2. Agencies for assisting individuals already employed in the industry
   a. Universities, colleges, and institutes; public and private
   b. High schools
   c. Vocational schools
   d. Correspondence schools
   e. Private corporations

Universities and colleges—public and private:

Institutions of this type which offer engineering courses or others leading to a B.S. degree send annually many graduates into the pulp and paper industry. These young men generally enter type jobs which may be found in the technical and engineering departments of the company which offers them employment. Examples:[4] Massachusetts Institute of Technology, University of Wisconsin, University of Pennsylvania, Bates College.

Some universities and colleges prepare directly for the pulp and paper industry. Examples:[4] University of Maine, New York State College of Forestry, University of Michigan.

Institutes offering work of college grade:

These institutions generally have specialized courses of a technical or engineering nature which fit their graduates for specialized jobs in the industry. Examples:[4] Pratt Institute, Armour Institute.

High schools:

While the average high school does not attempt to offer work which specifically prepares a graduate for entrance into the industry, most high schools offer general courses which give the student an excellent background of education which will be of assistance to him when he becomes a worker in the industry. High school graduates may be found in practically every job within the industry. Many high school graduates work in the industry a year or two and then go to college. Some cities have established technical high schools for the purpose of training young men for trade entrance. Examples:[3] Cass Technical High School, Detroit, Mich., and the Mechanic Arts High School, Boston, Mass.

Vocational schools:

Generally speaking the vocational schools in the United States have not offered much pre-employment training for the pulp and paper industry. These schools are authorized under the national vocational education act and may offer trade preparatory and apprenticeship training. These may be either day trade schools or part-time vocational schools. The boys going through this type of school are generally found in operating jobs in industry. The chief objective of instruction offered in these schools is to assist the boy in the selection of a trade and prepare him for advantageous entrance into it. Examples:[4] Trott Vocational School, Niagara Falls, New York; Appleton Vocational School, Appleton, Wisconsin, Holyoke Vocational School, Holyoke, Mass.

Cooperative part-time schools:

These schools as established in this country may be of college grade or below college grade. Students enrolled in these institutions attend school part time and work in the industry part time. The work in the industry is coordinated with the class room instruction. Northeastern University, Boston, Mass., and the University of Cincinnati are examples of college work of this type.[4] At the present time there are no part-time cooperative classes below college grade for the pulp and paper industry in operation.

Agencies for Assisting Individuals Already Employed in the Industry

This type of training is known as trade extension education, and is of such a nature as to be supplemental to the daily employment of the individual. The classes operating under public supervision and control are known as evening school classes although they may be offered during the day time.

Universities, colleges, and institutes—public and private:

The educational work in these institutions is generally in the field of research and is of such a nature as to lead to an advanced degree. Examples:[4] University of Wisconsin, University of Minnesota, Institute of Paper Chemistry, Lawrence College.

High Schools:

In many states trade extension training is offered under the board of education and is generally given in the high school building although special classes are often held on the mill premises. North Carolina, Ohio, New York, and Maine offer examples of this type.[4]

Vocational Schools:

Classes for employed persons of a trade extension nature based on short unit courses are offered to groups served by this type. Example:[4] Wisconsin Vocational Schools.

Correspondence schools:

These may be either public or private. The extension divisions of state universities offer this type of instruction. Examples:[4] Massachusetts, Pennsylvania, Wisconsin.

The Institute of Industrial Arts, Gardenvale, Quebec[4] has an efficient course of this type. The International Correspondence School[4] with headquarters at Scranton, Pa., offers trade extension education to individuals employed in the industry.

Private corporations:

Several pulp and paper companies are working out educational programs for their employees. Some of these are supported wholly by private funds, while others may be subsidized by public money when they are under public supervision and control. Example:[4] Champion Fibre Co., Canton, North Carolina.

The problems for consideration in the educational field can best be solved by the industry itself in cooperation with the various agencies set up for training. A well coordinated program between the schools and the industry should give to the

industry an efficient type of worker in all levels of employment. While much of the training can be done in public schools at public expense, nevertheless the impetus for the solution must come from within the industry.

Technical Association Project

The Education Committee of the Technical Association of the Pulp and Paper Industry is at present engaged with the project of compiling material in accordance with the objectives set up in this paper which will enable management in cooperation with the administrative officials of the various schools to set up training programs, efficient in nature to meet the educational needs found in the several pay roll jobs within the industry.

To assist the committee in this work, the Federal Board for Vocational Education has been invited to undertake a nation-wide study of the industry for the purpose of determining the training problems within it. The trade and industrial staff of the Federal Board under the leadership of Mr. Frank Cushman, Chief of the Division, started this study in several Wisconsin paper mills the latter part of July. The work will be carried on by the members of this staff working in pulp and paper mills situated in different sections of the United States. The accumulated data secured by the Federal Board will be edited by the Federal staff and checked for its technical correctness by members of the Technical Association and finally published. This will then be made available to every person in the industry who is interested.

The study of payroll jobs which is being made by the Federal Board will be divided into four major subjects:

1. Operations performed
2. Knowledge necessary to perform these operations efficiently
3. Training agencies available
4. Suggested courses of study

A subcommittee of the Education Committee headed by C. E. Libby of the New York State College of Forestry, Syracuse, N. Y., is making a study of the place of the technical men in the industry with a view to working out training agencies and courses of study which will enable the industry to obtain better trained technical men.

Because of conditions which exist at present in the industry, it has been thought best to devote the time and energy of the committee members to a determination of training problems and agencies by which these can be solved rather than to continue the work of summer employment at a major factor in the educational program as has been done during recent years. The committee believes that the material which it will have available for the annual meeting in February will be of considerable value to those who wish to inaugurate training programs for the education of those employed in the industry.

[2] No attempt has been made to list all payroll jobs in this department. These vary in practically every organization.

[3] Definitions and factors taken from Bulletin No. 17 issued by Federal Board for Vocational Education.

[4] The entire list of institutions offering certain types of training is omitted because of lack of space. Type examples are given for purposes of illustration only. No attempt is made to list these as to importance or efficiency.

Deinking Wastes*

By C. C. Irving[1]

Paper companies that deink old books and magazines are being pressed harder each year by health authorities to keep their waste material from the rivers and streams, and, of course, the ideal of every plant manager is to have no by-products or waste material which can not be disposed of profitably.

Waste from a deinking plant consists usually of alkaline water holding in suspension or in solution soaps, ink residues, short paper fibers and clay. Therefore, the problem before us is to separate the solids from the water, to treat the water so it may be re-used in the mill, and to find a use for the solid matter.

There seems to be no doubt that a settling basin is the best medium to separate the solids from the water. This is particularly true when the proportion of short fibers is small. If there is a large proportion of fibers, a suction type filter will reduce the solid content to less than .5 pounds per 1000 gallons. The solids recovered from a filter will be quite alkaline, therefore if this is detrimental to the reuse of the material, a settling basin, clarifier or other device should be used in order that only the concentrated sludge will go to the filter.

The water from a settling basin or filter will be very dirty, but if enough acid be used to acidify before settling, the emulsified ink residues and soap will settle out leaving only a slight yellowish tinge which can be cleaned up entirely by the addition of a small amount of chlorine.

Since acidifying is expensive there is a good chance for research by the makers of activated carbon or other filtering material to see if the water can be cleared in a cheaper manner. In fact, there is some work being done on this since I have just received samples of a very fine grained material which, it is claimed, can be mixed with the water in equal proportions with the ink and soap to be removed, usually a very small amount, and on filtering a crystal clear solution will be obtained. I have not yet had an opportunity to verify this claim.

Water reclaimed as above mentioned will be alkaline, and would have to be neutralized before reuse in most paper mill processes. It would seem that work should be done to devise methods of deinking which do not depend wholly on alkali.

It has already been proven in our laboratory that other substances can be used. The initial cost of these materials is high when compared to soda ash but it is possible that when the reuse of the water, the reclamation of the solids and the stream purification are considered, the cost would be no greater than with the usual alkalies.

The reuse of the reclaimed solids presents a difficult problem. It seems certain that this material, consisting largely of clay, can not be used to any great extent in the paper mill. By using various deinking agents these solids may be obtained in a very white clean condition but the amount produced by any deinking plant would be much more than could be used by that same mill as a filler, and the quality of board using it as a filler is not improved nor is the speed of manufacture aided.

It appears, therefore, that deinking mills will have to operate or support by-product plants to get rid of these solids.

The recovered sludge from a suction filter would be about 20 per cent dry and evaporation would be very expensive, and with transportation even more expensive, it must be utilized where reclaimed.

Because of the large percentage of water contained therein, it is logical that some use be made of it. This could be done in the manufacture of molded or stamped articles using cement, plaster of paris, casein or other suitable adhesives.

Mills which produce large quantities of this waste material may find in its neighborhood, some small manufacturer of novelties who would be glad to utilize this material if given some encouragement.

[*] Presented at the fall meeting of the Technical Association of the Pulp and Paper Industry, Kalamazoo, Mich., Sept. 24-26, 1931.
Contribution of the Waste Committee.

[1] Member TAPPI; Chief chemist, Falulah Paper Co., Fitchburg, Mass.

Chromium Nickel Castings in Sulphite Industry*

By Bertrand S. Summers[1] and J. D. Corfield[2]

The demand for acid resisting metals in the sulphite industry is as old as the industry itself. Even at this modern date, we are compelled to use expensive linings of brick and like materials by virtue of the lack of knowledge of metals which at some not far distant time will eradicate such linings from the digesters.

At the present time we are principally concerned with castings auxiliary to the digesters, although rolled products are likewise here involved, many of the auxiliary parts being made from sheets, plates, tubing and other rolled sections.

For those not acquainted with metallurgy, it should be pointed out that there is an essential difference between rolled metals and cast metals. In the process of rolling, the grain structure is orientated in such a way as to completely change the physical properties of the metal. Many metals that are very brittle as cast, when properly handled in the rolling process become very soft and ductile. The cast metal can be somewhat altered by suitable heat treatment, due to certain allotropic changes in the iron content of the alloy which will be discussed later. The grain structure can be altered and the physical properties changed to a certain extent by the heat treatment, but these changes are not as far reaching as those resulting from rolling, or from the combination of rolling followed by heat treatment.

Of the chromium-iron and chromium-nickel-iron alloys that have been investigated in an effort to solve the problems of corrosion incident to the manufacture of sulphite pulp, the one which has achieved the most prominence is the well known 18-8 alloy, that is an alloy containing 18 per cent chromium and 8 per cent nickel, the balance mostly iron. This alloy in rolled forms which are susceptible to heat treatment has shown excellent resistance to the sulphite acids, and its use is steadily increasing. For reasons which will be pointed out later, the same alloy has not been generally satisfactory in cast forms.

Forms of Iron

To better understand the peculiar nature of the chromium-nickel-iron alloys, it is necessary to remember that all alloys containing large amounts of iron combined more or less readily with carbon, and the carbon is combined or associated with the iron in different ways, as the result of the temperatures at which the reaction between the two elements takes place. This is largely due to the particular allotropic form in which the iron exists at various temperatures.

Some allotropic forms of iron are magnetic and some are non-magnetic. The two forms of iron with which we are principally concerned in these alloys are the so-called "gamma" which normally exists at from about 2500 to 1580 deg. F., and the alpha iron which exists from about 1250 deg. F. to normal temperatures. The two other phases, beta and delta iron, are not necessary for this discussion. The main differences between the alpha and gamma iron are that the former is magnetic and a poor solvent for carbon, while the latter is non-magnetic and comparatively an excellent solvent for carbon. If, therefore, anything can be added to the iron-carbon alloy which will retain the gamma phase of the iron at normal temperature, the carbon will be in solid solution in the iron and the alloy will be non-magnetic. This of course predicates dispersion of the carbon in molecular proportions.

The x-ray has shown that there are two varieties of solid solutions, but the only essential fact to consider here is that the carbon in solution is very finely dispersed. If nothing is added to the metal to prevent the ordinary transition of one form of iron to another, the gamma iron ultimately changes to the alpha iron, and this phase being a poor solvent for carbon allows the latter to separate out of solution whereupon it locates itself in the grain boundaries in the form of carbides of iron and chromium. When these changes take place in the chromium-nickel-iron alloys, we are accustomed to say that the alloy is in the ferritic condition.

Ferritic and Austenitic Alloys

When the former condition persists, that is the gamma phase remains, we are accustomed to refer to the alloy as being in the austenitic or non-magnetic state. The idea seems prevalent at the present time that the austenitic alloys are the only alloys which are reliably resistant to corrosion. With the nickel-chromium-iron alloys of the 18-8 group this is usually true, but it is not true as a general statement. There are ferritic alloys which apparently are as resistant as the austenitic alloys. During the past year, the authors have investigated a number of ferritic alloys which appear to be even more resistant to a number of corrosive media than any of the austenitic alloys when compared under identical conditions of exposure. When, however, the 18-8 alloy reverts from the austenitic to the ferritic condition it becomes at the same time more liable to corrosion than when in the austenitic condition. The explanation being that the carbon having separated out of solution opens up channels of attack for the acid.

Effect of Nickel and Chromium

When the elements chromium and nickel are added to iron-carbon alloys, some remarkable changes take place, provided sufficient amounts of such alloys are added to induce the austenitic condition. Chromium raises the temperature at which these changes take place and makes them slower and more sluggish. On the other hand, nickel has a very positive influence in lowering these critical temperatures, that is the temperatures from which the iron changes from the ferritic to the austenitic condition, and if added in sufficient amounts the gamma phase of the iron may be retained even at ordinary temperatures.

In general, the effect of nickel is rather the opposite of that of chromium, but the combined effect products a very interesting alloy. Chromium is resistant to the sulphite acids and other corroding influences, due to a very thin skin composed of the products of oxidation or corrosion which forms immediately upon exposure and protects the underlying metal. Nickel, however, is quite susceptible to attack by the sulphite acids, but when chromium is present in sufficient quantities it has the effect of also protecting the nickel from dissolution. It is the chromium in excess of the combined chromium which protects not only the nickel but the iron as well. Chromium has a marked affinity for carbon and readily forms carbides, so that a small amount of carbon can combine with relatively large amounts of chromium.

The amount of nickel required to preserve the austenitic condition of the metal is influenced by the chromium content. The 18-8 alloy, for example, is sometimes referred to as a marginal alloy for want of a better name. This means that the alloy is unstable under certain conditions, tending to change over to the ferritic state thus permitting the carbon to separate out of solution with the result that the metal becomes more susceptible to attack by he acid. The conditions which induce these changes are those of temperature and mechanical work. If it were possible to produce carbon free alloys of the chromium-iron type, the problem of producing satisfactory corrosion resisting materials would become relatively simple. However, because it is not possible to produce carbon free alloys on a commercial scale, it is necessary to adopt

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Contribution of Materials of Construction Committee.
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some method by which the harmful effects of the contained carbon will be minimized if not altogether eliminated.

Effect of Carbon

It has previously been pointed out that gamma iron is by comparison with alpha iron an excellent solvent for carbon. Furthermore, that the transition of alpha iron to gamma iron takes place at relatively high temperatures. It has also been pointed out that the harmful effects of carbon result from the presence of this element in the grain boundaries. Therefore, anything that can be done to remove the carbon from the grain boundaries and at the same time place it in solution with the gamma iron would remove the danger of intercrystalline corrosion resulting from the presence of carbides in the grain boundaries. This is precisely the case, and the method of transferring the carbides from the grain boundaries into solution with the iron is that of heating the metal to a temperature sufficiently high as to induce the gamma phase of the iron, which is the form in which capacity for holding carbon in solution is greatest. The preservation of the iron-carbon solution, or austenite, is dependent upon the presence of nickel, which tends to retain the gamma phase of the iron at ordinary temperatures, if added in sufficient quantity and by quenching the heated metal to arrest any tendency of the carbon to separate out of solution.

From the above, it will be seen that the smaller the amount of carbon present the easier it will be to complete the solution of the carbon in the gamma iron under favorable conditions. Likewise, that under unfavorable conditions, there will be less carbides present in the grain boundaries. For this reason, manufacturers of the 18-8 alloy prefer to hold the carbon content below .10 percent.

Applications to Sulphite Mills

If more nickel or chromium is added to the 18-8 alloy, the process of heat treatment becomes very much less important. However, nickel being more susceptible to attack by the sulphite acids, it is essential to also increase the chromium content whenever additions of nickel are made. If the nickel is retained at about 8 per cent and the chromium raised from 28 to 30 per cent, the resulting alloy is usually completely resistant to sulphurous acid without heat treatment. It should be apparent, therefore, that while bolts, nuts, sheet work, such as strainers, and so forth, are susceptible of receiving the heat treatment noted above, giving such treatment to castings of considerable size is quite another matter, not to mention the considerable danger of introducing dangerous internal stresses or cracks in the casting. If the casting is of considerable weight, the rapidity at which it may be cooled from the quenching temperature is very problematical, and it necessarily follows that it is by no means certain that the casting thus treated will be completely resistant to the acid.

Effect of Carbon Content

In the case of the 18-8 alloy, or for that matter any chromium-nickel alloy that can be considered in connection with the corrosion problems of the sulphite industry, it may be stated with great certainty that the difficulty of obtaining sound castings increases as the carbon content is lowered. If, therefore, the carbon content is lowered to .10 per cent, which is low carbon for cast metal, the difficulty of obtaining castings free from serious imperfections is very great. In an effort to overcome the difficulties that have attended the production of the 18-8 low carbon alloy, foundrymen experienced in the art of producing chromium-nickel alloys have resorted to every expedient at their command, including that of pressure casting. However, the practicability of exerting much pressure in making castings in sand molds is very limited and usually confined to raising the heights of the gates and feed heads. With the miscellaneous patterns called for to put a highly alloyed metal under pressure by special appliances would seem very complicated indeed. What, therefore, is the answer to the demand of the sulphite industry for sound castings. The answer would appear to be a modification of the 18-8 alloy which would permit the use of the higher carbon content without at the same time depreciating the resistance of the alloy to corrosion. This involves a substantial increase in the chromium content to 28 or 30 per cent and a moderate increase of nickel to 9 or 10 per cent. Such an alloy with .25 carbon has been found to be absolutely impervious to attack by sulphurous acid under the usual conditions.

Machining Properties

Immediately, we are concerned with the machining properties of the 30 per cent chromium, 10 per cent nickel, which has not received heat treatment. It has been observed that if the same precautions are taken scarcely any difference is apparent between the machining properties of the 30 chromium, 10 nickel alloy as cast, and the 18-8 alloy which has received heat treatment. This presumes of course that the 30-10 alloy has been properly made, which is not a subject for discussion in this paper. Unsound castings are usually attributable to two causes, namely, holes due to shrinkage or entrapped gases. If the metal has been properly made in the furnace, these difficulties involve the molders art. It is the opinion of the authors that the same foundry will obtain consistently better results with the high chromium alloy than with the 18-8 low carbon alloy. If in the latter the carbon is permitted to run as high as .20, many of the foundry difficulties will be overcome, but the alloy will not be resistant under all conditions it is called upon to meet. On the other hand, a 30-10 alloy with the same carbon content would not be attacked.

Good Castings Possible

It, therefore, requires no unusual equipment or foundry technique to furnish the sulphite industry with sound castings. It might be said that making corrosion resistant alloys is not unlike sulphite cooking. If the circulation is poor, if the cooking is forced before penetration is accomplished, or if the acid is depleted before sulphonization is completed, the pulp will be of poor quality. Also, a weak pulp can be produced which is a poor bleacher. Similarly, the proper melting of chromium-nickel alloys involves careful attention to detail and the observance of many precautions if it is desired to produce a metal that will be tough and free from entrapped gases or other objectionable inclusions. Also, when good pulp is made if it be subsequently murdered in the machine room, the quality of the paper will be poor. In much tht same manner, if the alloy is properly melted and completely deoxidized and later murdered on the molding floor, the quality of the castings will be poor.

Applications

It may be stated that there is no great difficulty in obtaining sound castings of any reasonable size, large or small, of a metal that will resist the sulphite acid. For example, a 1 inch globe valve can be made of nickel-chromium alloy of substantially the same metal thickness as a bronze valve of the same size, and will be equally as sound as the bronze valve in every detail. Valves and fittings can be obtained which will have indefinite life, and there is no mystery in making them except in the matter of experience and the use of the proper alloy. Digester heads, neck rings, bottom sleeves, and many other parts are available in chromium- nickel alloy with assurance that these parts will be as sound as it is possible to make them in any other material, not to mention their corrosion resisting properties. At the present time there are several manufacturers capable of supplying satisfactory chromium-nickel castings, rolled stock, and fabricated structures made from such alloys. It is not unlikely that digesters made of these alloys will come into more or less common use within the next few years. Increasing knowledge of the alloy combinations best suited to withstand various conditions of service, together with improved manufacturing methods, furnish adequate reasons for believing that in the future users of alloy will be able to purchase these metals with more assurance of successful operation than has been possible in the past.

Current Paper Trade Literature

Abstracts of Articles and Notes of Papermaking Inventions Compiled by the Committee on Abstracts and Bibliography of the Technical Association of the Pulp and Paper Industry

Clarence J. West, Chairman

For photostatic copies of articles appearing in the Abstract Section, address the chairman of the Abstracts Committee, Dr. Clarence J. West, National Research Council, 21st and B Streets. Washington, D. C. The charge for this service is: Photostats 9 x 11 inches, 18 cents each; 18 x 11 inches, 35 cents each; 22 x 18 inches, 70 cents each, minimum charge, 50 cents. Payment should be made upon receipt of invoice. Copies of United States patents may be obtained from the U. S. Patent Office, Washington, D. C., for 10 cents each. Send currency, not stamps.

Raw Materials

Chemistry of Australian Timbers. W. E. Cohen and H. E. Daldswell. J. Council Sci. Ind. Research 4, No. 1: 45-48 (1931).—A research project is outlined. For Australian eucalypt woods the usual methods of wood analysis had to be modified because of their resistance to the action of chlorine used in separating cellulose. These woods need a much longer treatment than usual and the cellulose appears to be greatly disintegrated. The repeated chlorinations cause the cellulose to become gelatinized by the subsequent alkali treatment and it cannot be filtered. The alpha-cellulose determination is of value in determining the suitability of the cellulose for the manufacture of rayon and cellulose lacquers. Chemical analysis is the only means of positively differentiating between jarrah and karri. The former shows 38.8 to 52% cellulose, while the latter yields 55.7 to 63.7%. It is hoped similarly to differentiate hoop pine and bunyah pine. Lignin results are often high because the benzene-alcohol mixture which is used for extraction leaves behind some of the extraneous materials frequently present in woods. These substances cantaminate the lignin and vitiate the results.—A.P.-C.

Stain and Decay Defects in Standing White Birch. Clara W. Fritz. Pulp Paper Mag. Can. 31, 565-566 (April 30, 1931).—Discoloration of birch known as "red heart" was found to be caused by the development in the wood of the fungus *Torula ligniperda* (Wilk.) Sacc.—A.P.-C.

Rapid Moisture Test for Wood. Carl R. Blomstedt. Technical Association Papers, XIV, 194-195 (May, 1931); Paper Trade J. 92, No. 18: 43-44 (April 30, 1931).—By grinding chips in a Wiley mill using the coarsest perforation (500 g. can be ground in 5 min.) and heating a 100-g. sample in a Spencer type C. electric oven at 75° to 80° C. for 5 min. with a suction of 100 cu. ft. per min., moisture can be accurately determined in a sample of wood in 10 to 15 min. A larger sample can be dried effectively in a somewhat longer time (500 g. in 15 min. at 75° C. with a suction of 100 cu. ft.). Air velocity has a much greater influence on the results than temperature.—A.P.-C.

Paper Making Properties of Phormium Tenax (New Zealand Flax). Merle B. Shaw, George W. Bicking and Martin J. O'Leary. Bur. Standards J. Research 6, 411-420 (1931).—The caustic soda process and two-stage cooks using sodium sulphite and caustic soda, respectively, produced good results as to quality and yield for wrapping and writing papers.—A.P.-C.

Paper Making Value of Cotton Stalks. R. Heim de Balsac, Vidal, Brot, Aribert, G. S. Dagand and H. Heim de Balsac. Bull. Agence Gen. Colonies 24, 716-734 (May, 1931).—The structure of the cotton stalk is described. Cooking 12 hours at a pressure of 2.5 to 3 kilos with a 15° Beaumé caustic soda solution yielded 44.5% of decidedly brown pulp containing a large number of shives, and which could not be satisfactorily bleached even with 12% of available chlorine. By increasing the strength of the liquor to 18° Beaumé and the time of cooking to 14 hours a 35% yield was obtained of a yellowish pulp which could be bleached satisfactorily with 6.5% of chlorine; the bleached pulp. obtained in 31% yield, still contained some dark specks, which would probably be removed by screening in commercial-scale operations. The pulp consists largely of short fibers (average about 0.75 mm.) with a small number of longer fibers (average about 2 mm.) from the bark; it would be suitable only as a filler in fine papers, but could hardly be produced at an economical cost.—A.P.-C.

Sugar-Cane Alpha-Cellulose. Joaquin de la Roza. 4th Ann. Conference Assoc. Sugar Tech. of Cuba, 1930; Sugar Abstracts in Facts About Sugar 26, 88 (1931).—The cellulose plant installed at Central Tuinucu, Cuba, for producing basic raw material for a number of valuable products is considered and the requirements of commercial alpha-cellulose as to ash, color, etc., are discussed. The difficulties encountered in developing the equipment and the process—digesting, pumping, foaming, draining, screening, corrosion, bleaching—are enumerated: It was found indispensable to keep fine bagacillo away, and often a change in the direction of the wind would render necessary extreme measures. Cuban alpha-cellulose is considered a proved competitor of purified cotton linters and represents a great help to the sugar industry.—A.P.-C.

Paper Manufacture. Richard S. Hilpert. Fr. pat. 699,249, (July 23, 1930).—Paper pulp is made from esparto and like materials in the countries in which the material is grown and in which water is scarce, by using sea water to condense and recover the fresh water used in the boiling, and using sea water for the purification and bleaching.—A.P.-C.

High-Alpha-Cellulose for Rayon. Lauri I. L. Durchman. Paper Trade J. 92, No. 20: 59-60 (May 14, 1931).—A discussion showing the advantages of using 98% alpha over 87% alpha cellulose in the manufacture of viscose, bringing out more particularly its effects on the caustic soda solution used in impregnating the fibers. The advantages are: lower consumption of caustic soda; time and labor; higher yield; better and more uniform rayon; lower consumption of coagulating bath; less danger of decomposition in dyeing the rayon; easier bleaching and higher luster of the rayon; lower soap consumption in the soaping process.—A.P.-C.

Process for the Removal of Colors or Colored Materials, Printer's Ink, Press Colors and Such, from the Pulp Converted from Old Paper and Other Fiberous Materials. Hans Scheele, Berlin. Ger. pat. 502,730 (Jan. 26, 1929).—It has been found that the amount of color or colored substances present can be removed at usual or higher temperatures quickly and completely without injurious changes to the fiberous materials. The pulped paper is treated with small quantities of a suitable colloid or a colloid forming material or some other similar substance which is dissolved, emulsified, dispersed or suspended in a low boiling, uncombustible, organic solvent or mixture of solvents which are not or only slightly immiscible in water.—J.F.O.

Removal of Printer's Ink. Carl G. Schwalbe. Z. Angew. Chem. 44, 24 (1931); C. A. 25, 3480.—Small quantities of gum or gutta-percha in trichloro-ethylene solution remove the ink by emulsification.—C.J.W.

Cotton or Wood for Rayon. P. H. Minck. Kunstseide 13, 97-98 (1931); C. A. 25, 4121.—A discussion of the preparation and use of Minck fiber (cotton hull fiber) for the manufacture

of rayon and the possible future economic situation of this type of fiber in relation to that of cotton linters and wood pulp.—C.J.W.

Western Cellulose. E. Richter. Pacific Pulp Paper Ind. 5, No. 8: 22 (July, 1931).—The author gives a comparison of the chemical and physical properties of western pulp with those of other regions, showing that western products are equal to European and eastern pulps, provided the latter are manufactured with due consideration of the peculiar qualities of the wood and the processes applied to it.—C.J.W.

Swelling Characteristics of Beech Wood. E. Moerath. Kolloidchem. Beihefte 33, 1-4 131-178 (June 15, 1931).—A comprehensive study of the swelling of beech wood with reference to the anatomical directions and the total amount of water present. There is also presented a new method for the determination of the moisture content of wood, involving electrical capacity of the specimen.—C.J.W.

Cellulose and Lignin

Action of Alkali on Cellulose. III. The Solubility of Viscose in Caustic Soda. Katsumoto Atsuki and Kichiro Shimoyama. Cellulose Ind. (Tokyo), 6 (Abstracts), 39 (1930).—The solubility of viscose in solutions of caustic soda was found to be inversely proportional to the temperature (over the range observed), the maximum solubility being at O°C. A concentration of 9% caustic soda caused a maximum solubility of 92.9%. This is explained to some extent by X-ray diagrams which show that the unit cells and micelles of viscose are smaller, show greater distortation and less orientation than those in natural fibers, with the result that the valence forces between the micelles are weak and the micelles or the hydroxyl groups easily absorb more alkali than the natural fibers with a subsequent gelatinization and dispersion of the micelles.—A.P.-C.

Colloidal State of Cellulose and Its Derivatives. Jacques Duclaux. Dixieme Conference de L'Union Internationale de Chimie 1930, 214-237.—A review with bibliography of 108 references.

Relation Between Cellulose Properties and Its Industrial Application. Emil Heuser. Dixieme Conference de L'Union Internationale de Chimie 1930, 192-213.—In English.—A review of the relation between cellulose properties and its use for textiles, paper, rayon and lacquers, films and plastics, with bibliography of 31 references.—A.P.-C.

Cellulose Fluidity in Cuprammonium Hydroxide. John L. Parsons. Technical Association Papers, XIV, 283-285 (May, 1931); Paper Trade J. 93, No. 1: 42-44 (July 2, 1931).—From a study of the fluidity determination (reciprocal of viscosity) as a means of evaluating cellulose fiber quality in relation to the more common criteria, (bursting strength, folding endurance, copper number and alpha-cellulose) this test seems to possess the advantage over some of the others (particularly copper number and alpha-cellulose) that uniformly greater numerical differences are obtained at different stages of the bleaching process. In interpreting physical and chemical constants of cellulosic material, it is essential to have a knowledge of the source of the fibers and their previous treatments.—A.P.-C.

New Method for the Quantitative Estimation of Cellulose. K. Kerschner and A. Hoffer. Chem.-Ztg. 55, 161, 182 (1931).—The action of nitric acid-alcohol as a reagent for the quantitative estimation of cellulose has been studied. The conditions of concentration have been determined where cellulose is uninjured and accompanying material removed. A numerical relation has been determined between the pentosans existing in the original material and remaining in the raw cellulose. The common applicability of a mixture of 20 volume percent concentrated nitric acid and 80 volume per cent of 96 per cent alcohol has been established. Comparative data in tabular form on cellulose determinations by all of the known methods, with references, are given. The ash content of the recovered cellulose may be disregarded since it is commonly in the third decimal point.—C.J.W.

Chemistry of Wood. III. Pt. 1. Comparison of Two Methods of Determination of Lignin. Louis E. Wise and A. M. Fairbrother. Ind. Eng. Chem. (Analyt. Edit.) 3, 253-254 (July 15, 1931).—The Forest Products Laboratory (Madison) and Ross-Hill methods of determining lignin (with slight modifications in technic in both cases) were found to give results in fair agreement. With chestnut and oakwood, which were extracted with hot water before the benzene-alcohol extraction), the difference between the two methods was less than 1%; with other hardwoods the Forest Products Laboratory method gave lower results, and with coniferous woods the Ross-Hill method gave lower results.—A.P.-C.

Chemistry of Wood. III. Pt. 2. Comparison of Two Methods for the Preparation of Lignin from Wood. William M. Harlow and Louis E. Wise. Ind. Eng. Chem. (Analyt. Edit.) 3, 254-255 (July 15, 1931).—The Forest Products Laboratory and Ross-Hill methods were found to give comparable results when applied to the same sample, so that either may be used as convenience dictates.—A.P.-C.

Bamboo. II. Bamboo Lignin. K. Sisido. Cellulose Ind. (Tokyo) 6, 167-170 (1930).—Bamboo is especially suitable for a study of lignin formation in vegetable material, because the shoots grow extraordinarily quickly. Shoots 5.8 m. long were divided into three parts, each part being then dried and pulverized, and the dry powder extracted with alcohol-benzene and dried in vacuo. Lignin was removed with 72% sulphuric acid, and its methoxyl number determined by the Zeisel method. The methoxyl numbers for the samples were also calculated on the assumption that this number represents lignin. Both calculated and observed values show a decrease from the base to the tip of the shoots, but good agreement is not found. It is considered probable that in the samples more remote from the base of the shoot the whole of the methoxyl is not fixed to lignin, and it is concluded that the lignin is methylated gradually according to the growth of the bamboo, or combines with the residue which contains methyl in order to give the higher values determined. Some properties of bamboo lignin have been compared with those of wood lignin, and it is found that they behave similarly. Thus, carbon, hydrogen and methoxyl contents are similar in amount to those of spruce-wood lignin. Also both spruce-wood and bamboo chips give a green coloration on immersion in concentrated hydrochloric acid, while, on separation, the lignin gives a greyish violet coloration before, and a salmon-pink after washing with boiling water. This suggests that bamboo lignin also has a heterocyclic structure. The distribution of oxygen in the lignin as hydroxyl, methoxyl, etc., is discussed.—A.P.-C.

Sulphite Process

Production of Cellulose from Pine Wood by the Sulphite Method. O. Routala and J. Sevon. Acta Chem. Fennica 4, 35-38 (1931). C. A. 25, 4118.—The study of the effect of addition of sulphite pulp waste liquors to the hydrolyzing solutions in the production of cellulose is reviewed. The waste liquors are a source of weak acids, having about 2.5 to 3 per cent of acetic and formic acids. The carbohydrates and lignosulfonic acids were not removed but the calcium was replaced by sodium by means of sodium sulphate leaving 0.3 to 0.4 per cent calcium. The composition of the waste liquors did not change on standing for 3 months. Steam distillation lowered the acetic acid content to 0.3 to 0.4 per cent. Normal hydrolysis liquors, containing 1 per cent bound sulphur dioxide, gave white, finely divided cellulose, while the addition of waste liquor with the same time of heating gave a gray cellulose in lower yields. With a much shorter heating time the cellulose obtained in the latter case was white and finely divided, while that hydrolyzed with normal liquor was not yet fibrous. Prolonged heating in the case of the waste liquors gave the darkening reported by Hägglund. The darkening occurred only after all of the bound sulphur dioxide was used up. Trials with liquors containing 20 per cent waste

liquor, 20 per cent waste liquor containing 4 per cent of sodium sulphate and 20 per cent waste liquor containing 7 per cent sodium sulphate upon spruce wood, with a boiling time of 8 hours, gave cellulose yields of 47.5, 47.6 and 46.3 per cent, respectively. All solutions had 3.90 per cent free and 1.10 per cent bound sulphur dioxide. The cellulose obtained in the first case was gray and fibrous. An excess of sodium sulphate is to be avoided. Heart wood under the same conditions gave a fibrous cellulose. Sapwood and young pine gave finely divided cellulose after longer heating. Resinous woods gave poor results upon addition of waste liquor. Pine containing 3.1 per cent resins gave 45.5 per cent of white, finely divided cellulose with normal liquor and 44.6 per cent of brownish cellulose with liquors to which waste liquor had been added. The lignin content remained the same in each case, while the pentosan content in the first case was 3.02 per cent and in the second case 1.92 per cent.—C. J. W.

Acid Towers for the Manufacture of Pulp. W. Sembritzki, Wochbl. Papier-Fabr. 62, No. 21: 498, (May 23, 1931).—The author criticizes the article of same title by Stickel appearing in number 17, 1931, Wochbl. Papier-Fabr. in which the author had recommended calcium carbonate towers of wood with vertical ribs of acid proof material attached to the inner wall of the tower. It was then proved that the usual Mitscherlich tower made of wood lasted from 25 to 30 years and longer. If the tower is filled daily, the decrease in calcium carbonate stone is from 1 to 2 meters and the mechanical requirements are small. Wood towers which have acid proof radial plates have also proven a success in practice. If only acid proof rails were used instead of the inner acid proof masonry, according to the proposal of Stickel, the stone in the space between two rails can be caught and held there. If the rails lie close together, it closely resembles a complete masonry job. If the life of the tower is low, it is generally the cause of the operators not understanding their jobs.—J. F. O.

Method of Burning Iron Pyrites. Horace Freeman assignor to The Sulphide Research Corp., Ltd. Can. pat. 311,130, (May 5, 1931).—Iron sulphide ore is passed in finely divided form through a zone in which it is preheated to ignition temperature by contact with hot furnace gases, through a second zone in which it is heated to fusion temperature and burned with a deficiency of gaseous oxidizing agent whereby most of the sulphur is oxidized, through a third zone in which it is further heated to a state of fusion and is burned with an excess of gaseous oxidizing agent whereby substantially all the iron and the residual sulphur are oxidized, and finally through a fourth zone in which the fused particles are chilled sufficiently to avoid agglomeration.—A.P.-C.

Process for the Preparation of Sulphite Liquor. Thomas L. Dunbar assignor to Chemipulp Process, Inc. Can. pat. 309,887, (March 31, 1931).—A process and apparatus are disclosed for absorbing sulphur dioxide gas in aqueous solutions to obtain a sulphite liquor. Hot strong sulphurous acid solution is mixed with cooler, dilute sulphurous acid solution in the presence of solid lime-containing material. The resulting solution is cooled, sulphur dioxide gas is absorbed therein, in the presence of solid lime-containing material, and unabsorbed sulphur dioxide is passed from the last-mentioned absorption into contact with water in the presence of solid lime-containing material to prepare a dilute solution to be mixed with further quantities of hot strong sulphurous acid.—A. P.-C.

Method of Cooking Sulphite Pulp. Sergei I. Chuvikovaskii and Grigory L. Liachovetskii. U. S. pat. 1,793,264, (Feb. 17, 1931). —Liquor leaving the digesters is conducted to an evaporator where it is heated by fresh steam and the vapors are returned to the digesters.—A. P.-C.

Chemistry of the Sulphite Cooking Process. A. St. Klein, Zellstoff Papier 11, No. 4: 198-200 (April, 1931).—The old and new economic and technical investigations on the cooking of sulphite pulp was given. After describing the basic experiments of Klason, the author reports on the results of Schwalbe, Bernheimer, Johnsen, and Berndt and the comprehensive experiments conducted at Madison, as well as those of Hägglund. The following topics were discussed: the theory of the cooking process, cause for a black cook, selinium and sulphur in the cooking process, the action of the content of calcium oxide, decomposition of the cooking liquor, influence of the cooking conditions and the composition of the acid upon the quality of the pulp, the consumption of sulphurous acid, decomposition with acids rich in bases, the decomposition with cooking acids without the addition of bases but with sulphurous acid, hydrogen ion concentration during the cooking and the control of the cooking process by the color change of the liquor.—J.F.O.

Concerning the Reaction of Sulphite With Sugars and Lignin in the Sulphite Cooking Process. E. Hägglund. Papier-Fabr. 29, No. 11: 161-164, (March 15, 1931).—The author's theory of the sulphite cooking process was first given, as well as the influence of the hydrogen ion concentration on the decomposition. There are considerably less quantities of sulphurous acid loosely combined in the lignin which first takes place in the solid phase than in the waste liquor. It is assumed that carbonyl groups are freed with the hydrolytic splitting of the lignin sulphonic. The protective action of the bisulphite ions on the salt of lignin sulphonic acid is explained by the fact that the carbonyl group takes up bisulphite in the solid form as well as in solution. Black cooks occur if a too strong relief gassing takes place in the early stages of the cook, because then the concentration of the bisulphite ions is too low to exert its protective action on the carbonyl for the remainder of the cook. The luminous fluorescence of the pulp and the waste liquor is caused by the addition of bisulphite on the active carbonyl of the lignin sulphonic acid. The sugars occurring during the cooking are oxidized by the bisulphite ions to aldonic acid. Therefore the yield of alcohol is low when cooking with a liquor which is rich in bases. Since there is no firm relation between the alpha and beta lignin sulphonic acid in the sulphite waste liquor, the author concludes that the beta lignin sulphonic acid is formed from the alpha lignin sulphonic acid. Since an excess of bisulphite is favorable to the yield and quality of the pulp and unfavorable for the yield of sugar, a certain opposition is set up when trying to obtain a good quality of pulp and also a high yield of sugar.—J. F. O.

Sulphite Cooking Process. Effect on Length and Weight of Cellulose Fibers. Aleksa Lampen. World's Paper Trade Rev. 96, 101-104 (July 10, 1931); Pulp Paper Mag. Can. 31, 853, 866 (July 23, 1931).—Experimental results are described which show that the sulphite cooking process does not affect the length of the cellulose fibers. The weight of 1,000,000 unbroken and undamaged fibers varied from 0.39589 g. for pulp having a Tingle number of 1.06, Bergman chlorine number of 0.45 and theoretical bleaching powder requirement of 1.3% to 0.63667 g. for pulp having a Tingle number of 7.85, Bergman chlorine number of 6.25 and theoretical bleaching powder requirement of 21.9%.—A. P.-C.

Progress of a Sulphite Cook. W. H. Birchard. Paper Industry 13, 359-360 (June, 1931).—In cooking wood by the sulphite process the lignin reacts as an aldehyde and takes on two HSO_3 groups, one of which is only loosely combined and may be split off by the addition of strong caustic soda solution. As the cooking progresses, the percentage of loosely combined sulphur dioxide increases and the rate at which it increases seems to be of importance; eventually the value becomes constant, indicating a stage where further cooking will tend to weaken the pulp. The loosely combined sulphur dioxide in the liquor was determined at hourly intervals for 12 commercial cooks, without interfering in any way with the operation of the cook, and beating tests were carried out on the pulps produced. It was found that maximum strength was developed when the cooks were blown at about the point where the loosely combined sulphur dioxide content of the liquor became constant; when the cook was blown earlier, the pulp was undercooked; when blown later, the pulp was considerably weakened. The method is as follows: cool the liquor sample under pressure, titrate a 2-cc. portion with decinormal iodine to

determine inorganic sulphur dioxide, add 10 cc. of 20% caustic soda solution, let stand 30 min., make slightly acid with hydrochloric acid, and again titrate with iodine using starch indicator. It is not claimed that the test will show up all the defects in the cooking procedure, nor that it can be used as a commercial cooking control method on account of the time required to split off the loosely-combined sulphur dioxide; but its usefulness lies in locating defects in the method of cooking and as an indication as to whether the cooking cycle is too long.—A. P.-C.

Technical Control in the Sulphite Mill. Vance P. Edwardes. Pulp Paper Mag. Can. 31, 735-737 (June 18, 1931); Paper Trade J. 92, No. 24: 77-78 (June 11, 1931); Paper Mill 54, No. 27: 12, 22 (July 4, 1931).—A brief discussion of some of the chief points in connection with the control of wood quality, acid recovery and pulp yields in sulphite mills, emphasizing the importance of the ability of the technical man to make the operating staff understand and apply the fundamental principles of sulphite manufacture.—A. P.-C.

Sulphite Pulping Process. Aktieselskapet Raoul Pictet and F. Tharaldsen. Fr. pat. 698,338, (July 3, 1930).—Pulp is obtained by treating wood, etc., with a liquor containing a much larger amount of free sulphur dioxide than in the usual sulphite process, less liquor being used than is necessary to recover entirely the primary material treated.—A. P.-C.

Pulp-Cooking Process. Thomas L. Dunbar U. S. pat. 1,798,525, (March 31, 1931).—In a process such as digestion with acid liquor, gases and vapors from a digester are discharged through a conduit into an enlarged mixing chamber, and cold acid liquor is constantly fed into the chamber and the gases and vapors are thus utilized to preheat and pre-condition the liquor; this operation is conducted and the liquor is withdrawn from the chamber under substantially atmospheric pressure, and the liquor is then forced into an accumulator maintained at super-atmospheric pressure.—A. P.-C.

Miscellaneous

The Durability of Paper. Korn. Wochbl. Papierfabr. 62, No. 9: 198-199, Feb. 28, 1931).—A resume of the conclusions of several national committees as to the properties and tests of document paper. The content of alpha cellulose, the copper number, the rosin content and pH value are among the important qualities.—J. F. O,

Concerning the Utilization of Cellulose. O. Faust. Papier-Febr. 29, No. 23A: 46-48, (June, 1931).—The author generalizes on some of the chemical theories which have an effect on the various materials made from cellulose.—J. F. O.

The Back Water From Paper Mills in Relation to Jurisdiction. Max Alsberg, Berlin. Papier-Fabr. 29, No. 5; 65-68, (Feb. 1, 1931).—A discussion of the question of paper mills allowing the back water to run into the streams, cases are described and their outcome according to law.—J. F. O.

Paper and Colloidal Chemistry. Raphael Ed. Liesegang, Wochbl, Papierfabr. 62 No. 23A:43-44, (June 6, 1931).—An academic discussion of the principles and applications of colloidal chemistry in the art of paper making.—J. F. O.

Determination of Acid and Alkali in Paper. Hanns Schmidt, Wochbl. Papierfabr. 62, No. 23A: 44-47 (June 6, 1931). Because of the impossibility of checking acidity in paper by various titration methods, the author proves the dependability of the potentiometer method and then goes on to show that even this method may be simplified by substituting a galvanometer, a switch and a resistance. The various methods are explained in detail, along with curves and other data on the results.—J. F. O.

New Method for the Quantitative Determination of Fiberous Mixtures. P. Krais and H. Markert. Wochbl. Papierfabr. 62, No. 23A: 53-55 (June 6, 1931). The article chiefly concerns textile fibers, especially the differentiation of artificial silks from cotton and wool. The Rhodanid method is a sure means of differentiating between cotton and artificial silks.—J. F. O.

New Quick Method for the Determination of Water in Paper and Board. Max Knopff, Wochbl. Papierfabr. 62, No. 8: 178 (Feb. 21, 1931). One gram of paper, board or pulp is mixed with calcium carbide, the acetylene gas produced is measured by the pressure exerted upon a column of mercury. Although all the water does not react with the calcium carbide, it is assumed that the percentage remains constant for each different kind of pulp or paper.—J. F. O.

The Dresden-Tharandt Institute for Plant Chemistry and Wood Investigation. W. Gierisch. Wochbl. Papierfabr. 62, No. 23A:8-12, (June 6, 1931).—A history of the institute is given along with its founders. The dedication of a new building is the occasion for this article.—J. F. O.

Old Paper Mills in the Province of Saxony. Fr. von Hossle. Wochbl. Papierfabr. 62, No. 23A: 13-17, (June 6, 1931).—An interesting description of paper mills founded around 1700, mentioning employers life, the stamping mills and water marks—J. F. O.

Concerning the Evolution of the Shaded Water Marks. Alfred Schulte, Dusseldorf. Wochbl. papierfabr. 62, No. 3A: 18-23, (June 6, 1931).—A general description of the water mark from its conception up to its present improved form. Illustrations of the more famous water marks are given.—J. F. O.

The Mill Water Used in the Pulp and Paper Industry. A Splittgerber, Wolfen, Germany. Papier-Fabr. 29, No. 6: 81-84, (Feb. 8, 1931).—Unlike other industries the water for paper and pulp mills must possess certain qualities such as, uniform temperature, colorless, free from iron and manganese, organic matters and certain harmful salts. The presence of manganese chloride and calcium chloride is detrimental to the sizing. Surface water generally has a high percentage of suspended matter and usually must be filtered; while underground water is influenced by the layers of soil through which it filters and should be treated with lime. Aluminum sulphate is very valuable in removing iron compounds, sometimes a derating treatment is sufficient. Other chemicals are often necessary according to processes.—A.P.-C.

Chemistry and Paper Making. M. Brot. Chimie et Industrie 45: 480-487 (Feb. 1931).—A general discussion of the importance of chemistry in the various pulp and paper making processes.

Formation of Paper. W. Boyd Campbell. Research Notes 2: 1-3 (1930); Pulp Paper Mag. Can. 31: 424-424, 438 (March 26, 1931).—An address dealing particularly with the qualities of pulp which make it suitable for paper. The adhesion of cellulose to cellulose is particularly stressed, and the author's theories as to the mechanism of the so-called hydration by beating are explained.—A.P.-C.

Paper Mill Management. H. C. Macaulay. Paper Trade J. 92, No. 13: 26-40 (March 26, 1931).—After a brief discussion of the increasing importance and necessity of education for proper mill management, an outline is given of the more important things with which the manager should be familiar in the various departments of the mill.—A.P.-C.

Development of Paper Manufacture from Southern Pines. R. H. Stevens. Paper Ind. 12: 2019-2026 (March 1931).—A general discussion of the advantages and possibilities of the Southern United States for the production of pulp, particularly kraft, and paper.—A.P.-C.

What Patents Mean to the Paper Technologist. Joseph Rossman. Paper Trade J. 92, No. 14: 58-60 (April 2, 1931).—The author described the classification system of the U. S. Patent Office, outlines patent holders' rights, interprets the validity of claims, discusses the sulphate process patent of Eaton and Dahl and shows the advantages of patent protection.—A.P.-C.

Viggo Drewsen. S. Schmidt-Nielsen. Paper Industry 13: 63-64 (April 1931).—An address reviewing the work of Drewsen in the field of chemistry, more particularly cellulose chemistry.—A.P.-C.

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Decalogue of Modern Marketing*

By Joseph H. Barber[1]

In Biology we learn that an organism must adapt itself to its environment. So must the business man be acutely conscious of his surroundings and choose his objectives definitely and wisely. He must sense the assortment and relative importance of the economic elements affecting his business. He must so direct his own activities that they will aid in maintaining an economic balance of the various departments of his business, the one with the other, and of his business with external economic conditions.

This interweaving of economic factors presents a net work of relations. They appear complex. But the kernel of business is still simply buying and selling—the old-time relationship of trading. New complexities may obscure but cannot obliterate the fundamentals.

It behooves us to examine without prejudice, then, the present-day economics of buying and selling so as to assure a profit remainder. The philosophy of buying and selling may be expressed in ten maxims as follows:—

A Decalogue of Modern Marketing

1—Forget not the nature of trading.
2—Beware of profitless prosperity.
3—Admit the customer is always right.
4—Assume the vendor has only a "veto."
5—Invest time, space and effort proportionately.
6—Cut off the end items.
7—Fish where the fish bite.
8—Let ruts help, not hinder.
9—Keep yourself "in line."
10—Search out the lazy dollars.

These are simple maxims and sermonistic in spots; but, until we approach toward their practical application, we shall not be in touch with the fullest progress of modern business. Many have contributed the experiences and ideas that are expressed concisely here. Full credit is due them for their several contributions. But it is our hope that in this decalogue even they may find a fuller light cast about their own bits of wisdom.

1—Forget Not the Nature of Trading

What with combinations, integrations, holding companies and far-flung subsidiaries, the mechanisms of modern business are the most complex ever developed by the human mind. Yet it is all simple enough in essence. When we search out the fundamentals, we quickly realize that now, as always, business rests upon the foundation of a good old-fashioned "trade" between a buyer and a seller.

In the rush of many matters, how quickly we forget the personal nature of the invoice. Each little bill that comes in is really a most significant, pertinent record of a good, old-fashioned "trade," or sale. That invoice record tells us that the sale is (1) from a particular source of supply, (2) to a particular customer, (3) in a particular place, (4) at a particular time, (5) of a bill of assorted goods. The invoice itemizes that bill of goods as to (a) quantity, (b) price, and (c) value. All these elements are separate and distinct economic factors and they weave as continuous threads throughout the fabric of business.

The early philosophy of a "trade" grew out of the instinct to buy low and sell high. Profits were then dependent upon shrewd speculation. But little by little facts came to light to show that speculative profits were largely "paper profits"; that price changes were often two faced, with no permanent advantage either way, since the gains of two or three months could be entirely lost in a single month. It became more and more evident that the one who aimed to furnish his customers a real service, and who performed that service steadily and with increasing efficiency, made more money on his "operation" than he did on all his shrewd buying.

Such is the aim of modern merchandising. Proof is not wanting to justify a policy of steady operation with increasing efficiencies based on research. A recent survey by the Central Supply Association, conducted through the Bureau of Business Research of Harvard University, showed clearly that largest profits had been made by the jobbers who tended to merchandising service and got the best stock turnover; and they got these better profits in spite of narrower profit margins. They got them by their efficiency in getting expenses into line with lower selling prices, and not by waiting for a speculative price rise to make a wider gross margin.

They improved their position by concentrating their effort on the valuable customers and in the compact territories they could serve best and most economically. They added to their profits still further by weeding out unprofitable lines that could never warrant the expense of carrying them. Their merchandising service was needed; and the best profit rewards went to those who were the most efficient in performing the necessary service.

In the play of contending forces, there is evident a rational economics affecting the elements of trading—that is,

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of spending and getting. Just that:—spending first in the hope of getting a later return. The very foundation stone of success is intelligent investment in those quantities and in those places where a harvest can be reaped.

2—Beware of Profitless Prosperity

For the most part, organizations have seemingly carried on with sublime confidence that they could sell their merchandise regardless of whether the market would be able to absorb it. That is unfortunate. For it is one thing to prepare manufacturing facilities for whatever demands may confront them, but it is quite another thing to attempt to run those facilities full when the demand cannot possibly absorb the output.

It should not have required a year like 1930, to prove that the manufacturers of a given industry cannot continue to produce in excess of demand, trying to flood wholesalers with merchandise in excess of their ability to resell. The manufacturer who brings about this condition, can only blame himself when profit changes into loss; and it is equally certain that the profits of the wholesalers, who are usually the innocent victims of this policy, will also be turned into losses. It is essential, then, that an industry's activities be directed toward the restraint of production to such a level of activity as the market can properly absorb.

True management does not concentrate on volume to the exclusion of profits. Instead, it determines where sales will be profitable, what services ought to be performed for the price and what demands should be satisfied. True management does not try to gait up together an ineffective sales policy to compensate for a defective production policy, thus trying to imitate Napoleon's glorious victory when he captured Moscow, but returned to Paris without his army.

3—Admit the Customer Is Always Right

A great chain of restaurants, which was originally organized forty-one years ago with one store on Cortlandt Street, New York, and which now operates one hundred and fifteen restaurants, published the following in the Boston News Bureau a few months ago: "Up to a half dozen years ago, progress was considered satisfactory by stockholders. During the succeeding years, with more restaurants in operation, earnings showed a declining tendency, generally attributed mainly to new food policies. Meats practically were eliminated, many popular dishes abandoned, and caloric contents of foods were printed opposite the articles on the menus. In March, 1929, the present management took over control. Meats and popular dishes were restored, and a vigorous advertising policy adopted. Sales then showed their first comparative increase for many months." They had simply learned that the customer is always right.

It is quite the proper thing now to "view with alarm" the increasing cost of distribution and the huge wastes incurred. The solution of the problem begins when we approach it from the customer's point of view, realizing that it is the consumer who should activate our policies, that it is his needs that should be our natural yardstick and the justification for our producing any item or line of product.

In the mass, Mr. Consumer is economically-minded and judges values shrewdly. He will spend as much as a nickel for a magazine of over 200 pages. One story or article will be worth that much. But for only a penny, customers will shift trade from one grocery store to buy their bread at another. The consumer has many calls for his money and in spending his dollars he is casting his votes for or against the products offered. You can't sell him what he doesn't first want. To get his votes, you must take sides with him. So here we come by our fourth maxim.

4—Assume the Vendor Has Only a Veto

If the consumer's dollars are votes, then dealers and jobbers do not really determine their own "buying." They have veto power only. One cannot say what his customers shall buy. One is simply free to choose for himself whether he shall, or shall not, sell certain classes of product to selected types of customers. Accordingly, the jobber becomes the procurement agent for his chosen group of consumers. As a procurement agent for them, he reaches out his hands only for the products that they want badly enough to pay a reasonable margin on. He wisely ignores or vetoes all other products.

So it comes about that the manufacturer, in turn, finds his real competition in the other lines of product that the jobber must sell and get his living out of. The average sale of the jobber is so small that he cannot constitute himself a specialist on just a single manufacturer's line. To the manufacturer, his single product calls for 100 per cent of his attention, but it is only 1/100th of the jobber's total interest in selling. And the jobber won't spend his time on any product if he cannot find his easiest profit in that way.

Consequently, starting from the point of view of consumption, we do well to ask: Who are the ultimate users of our product? What are their habits? What is the best method of distribution? In other words, how can we most intelligently meet their buying requirements?

The more modern approach puts a large burden squarely upon the shoulders of the manufacturer to make his product salable to the consumers he aims to serve. This he can do. His contriving engineers, his expert craftsmen and his eagle-eyed inspectors can all write an invisible trademark into the product which the customer will instinctively recognize. Until the customer does accord such "recognition" to the product, the jobber will lack confidence in it and will withhold his best efforts from it. Nor will any product, having temporarily secured attention and introduction into the jobber's business family, continue to enjoy that favor unless it in turn, commands a profitable share of recognition by the user.

5—Invest Time, Space and Effort Proportionately

Time, space, and effort are all paid for by money. Consequently, the commercially-minded analyst views the allotment of time, space, and effort according to importance of demands and according to the chances for an equitable return in profits. As a result of this viewpoint, he searches for evidence that will show where time, space, and effort are *not* balanced properly and where too much of any of them is expended in directions, against obstacles or under conditions that are bound to wear profits thin.

For, the commercially-minded analyst knows there is a "law of concentration." It is more often the rule than the exception that one-fifth of the economic factors will be decisive enough to tip the scales one way or the other. For instance, the industrial census shows 20 per cent of all the establishments employ 88 per cent of the wage earners in industry and develop 92 per cent of the total product. A study of credit factor shows that 85 per cent of the manufacturing industries in the United States have poor credit ratings, while only 15 per cent have good ratings. Nevertheless, the 15 per cent that are "good" comprise 90 per cent of total business, and 80 per cent of that "good" business is in the places easiest to reach.

Analysis of typical markets has shown that a full half of possible sales volume is concentrated within the geo-

graphical area of five states; three-fourths of the potential market lies within ten of the forty-eight states; and it is a fact that for certain types of product twenty of the states, or nearly half of the forty-eight, may consume only 5 per cent of the total product. Moreover, there are some 120 specific, individual trading areas within the United States that consume nearly nine-tenths of the possible grand total consumption.

The general law of concentration is so well supported that we may well ask ourselves searchingly whether we are concentrating our efforts correspondingly. Clearly, executive attention should be balanced well against these relative importances. It should be directed toward the major factors and withdrawn from the end items if there is to be equilibrium such as will assure maximum profits. Nature will help man to solve his problems and attain his ends, so long as he has a definite purpose, knows what he's after and does the right thing at the right time and in the right way. It is useless to try to push water up a hill and it is just as unprofitable to oppose economic laws.

6—Cut Off the End Items

Here we would stress the current need for emphatic restatement of fundamentals concerning marginal customers, marginal territories, marginal activities and marginal information. The year 1930 forced us to call in question the well-nigh compelling urge toward increased volume, greater size and larger aggregations of corporate units. In the recent years just prior to 1930, there was little time to consider those customers, territories, products and practices that are at the fringe of industrial activities. We had been intensifying our sales effort and travelling many territories for the sake of getting an extra inch of sales volume, but we did little to find out whether or not the extra gross profit obtained covered the extra expense involved.

As relating to this important principle of marginal activities, we may quote a statement credited to Herbert Hoover: "Very few producers have the capacity for selling the United States as a whole, but we find many of them trying to do this. Much effort is lost upon some territories which, if properly studied, would fail to show possibilities sufficient to justify the expense of advertising and selling. A great many manufacturers undoubtedly would find that by limiting their efforts to more circumscribed areas and intensifying their sales activities in such areas, they would not only reduce their selling costs, but probably would produce a large volume of business."

In the case of one large producer, studies have indicated that any account less than $600 a year cannot be handled except as a loss, and that nearly half of his accounts have been of this size or smaller. In another case, where a manufacturer was conducting national advertising into every town and hamlet at a tremendous cost, it was discovered that less than one thousand individual companies were large enough to utilize the product advertised.

These facts suggest the need which exists for concentrating sales effort to secure selected customers, in order to assure distribution of product to the important industries in the logical trading centers. Concentrated areas can be marketed at a profit. The sparse territories, comprising nearly 50 per cent of the 3,000-odd geographical counties, can only be traveled at a disproportionate cost. What in all common sense we should really do, is to determine what are the important trading areas for us—and to see that we are represented in each of those areas by trade outlets that rank at the head of the list of those sources of supply recognized by the important consumers.

7—Fish Where the Fish Bite

Nature's geological forces have seen fit to wrap up her mineral gifts in small packages and to deliver each package in a queer place. But a man may seek out his spot, unearth his package there and unwrap it for himself. In Arizona he can extract his copper. In the Alleghenies he can mine his coal, or in Texas drill for his oil. Likewise, since the earth's crust is overdone in some spots and soggy in others, we have our cattle ranches and our wheat belts.

Only in slightly less degree have the natural characteristics of certain localities prescribed what industries should congregate there. The foundry-man squats near his coal and iron. The slaughterer usurps the corner of a great lake that had to be gotten around by all traffic headed toward an Eastern market. Like filings clinging for life at either one end, or the other, of a horse-shoe magnet, industries have arranged themselves in systematic order.

It all rests upon an obvious philosophy of common sense. Iron miners do not dig where there is no iron ore. The ranchers seek the open country where fodder is free on every hand. Anglers fish where fish bite. The sportsman after the big game uses a rifle and not a shot gun. It is a rule of life that a man must accommodate himself to his environment or he will not survive.

From these generalities we deduce an interesting corollary that is important in all our thinking. The people that live in a community determine its economic characteristics. This is so simple, to state, that it sounds foolish. But how many of us, for each separate community, have sized up just which industry ranks first, which one second, which one third? . . . And do we recognize that the given locality repels as well as attracts? Which industries are inconsequentials? Doesn't the leopard have to change his spots as he moves from one jungle to the next?

It is stimulating to grasp the significance in the simplification possible because of these facts. Seventy-five per cent of the producing oil industry is in three states down Texas way, a compact area relatively. The oil capitol of the world is there.

The salesmen who are the oil-conscious salesmen can get their best information at that place. Moreover, since the biggest proportion of oil in the United States is right there, it also becomes a fact that that region is dominated by the oil industry sales. When markets are analyzed along these lines, a manufacturer finds he can adopt a purposeful, selective approach to his customers. His gulf region manager becomes his oil specialist.

6—Let Ruts Help, Not Hinder

Human nature resists change. It certainly does like to jog along the same old groove and it greatly resents anybody or anything that tries to yank it out of a rut and put it on some other path. Sometimes we stay in ruts because we don't know we're in them. They become deep and we can't see over the ridges. Yet as long as we're in a rut we cannot pass out anyone else. It seems easier to go along accustomed lines of action than to change. And soon the ruts have become our fixed, unchangeable habits.

For our enlightenment William James, the eminent psychologist, elaborates upon the nature of habits from this angle: "We find ourselves automatically prompted to think, feel or do what we have been before accustomed to think, feel or do, under like circumstances, without any consciously formed purpose, or anticipation of results. Habit soon brings it about that each event calls up its own appropriate successor without any alternative offering itself. Habit is thus the enormous fly-wheel of society, its most precious conservative agent. It alone is what keeps us all within the bounds of ordinance, and saves the children of fortune from the envious uprisings of the poor. It

alone prevents the hardest and most repulsive walks of life from being deserted by those brought up to tread therein. It keeps the fisherman and the deck-hand at sea through the winter; it holds the miner in his darkness, and nails the countryman to his log cabin and his lonely farm through all the months of snow."

If habits have half the balance-wheel power attributed to them by William James, they may be counted upon by the business man as if they were a persisting force and plans may be matured accordingly. Indeed, in all the many phases of his production, marketing and administration, the business executive has great need for reliance upon fixed standards and normals that condense the experience of the past into handable yardsticks, acceptable to all concerned. For, by the use of standards and a reliance upon the inertia of continuing habits, he is at once relieved of petty details, and freed for broader usefulness.

9—Keep Yourself "In Line"

There also seems to be a "law of equilibrium." Economic forces tend to strike an equality or parity, the one with the other. This has been long exemplified in the historical "corn-hog ratio." Statistics show the price of a hog tends to be equivalent to the price of eleven bushels of corn. Similarly, over a period, one-dollar wheat will mean five-dollar flour. Departures tend to correct themselves back to the ratio that represents equilibrium.

Nor is this law limited to a parity of prices. If there be temporarily too much industrial building, for instance, it will penalize and restrict residential building. There is a tendency toward a balance of exchange between industries, so that they are "sharing and sharing alike." One group cannot long prosper at expense of another, and the greatest good to the public, as well as to the industry, results from an even balance between reasonable volume, reasonable prices and reasonable profits.

Equilibrium is also a vital principle in building the structure of an organization . . . the preservation of balance between so-called "productive" labor and so-called "overhead"; even between research for improving process efficiency and research for increasing marketing efficiency. Since every business tends to get out of balance, with respect to internal matters, or its relation to external conditions, we might caution due regard to the admonition to "keep in line."

Many of our most serious problems spring from overproduction. When the manufacturer's volume recedes he can hardly avoid the conclusion that he is suffering more than his competitor and that somebody is stealing his customers. That feeling of anxiety can be relieved principally with data. It is a matter of record that, in those industries where data can be accumulated accurately and frequently, so that each manufacturer can observe with considerable exactness what his relative position is in that industry, each will valiantly and honestly bear his share of the burden of curtailment in the hope of re-establishing equilibrium.

10—Search Out the Lazy Dollars

This maxim stresses the fact that all the costs and expenses of any concern can be paid for only out of the sales dollars that customers will pay for the products of that concern. This implies that, out of each dollar actually gotten, only a certain number of cents can be allotted to pay the costs of a given activity of the business. If any department spends more than its allotted share of the total sales dollars, it thereby penalizes other departments or creates a loss.

The search for lazy dollars presumes that all activities must be proportioned according to sales revenues. In total —or by units—we cannot spend more than we get and still hope for profits. A complete lazy dollar analysis would break down the 100 per cent total into proportionate divisions and would allocate a certain number of cents allowable for each class of expenditure. Each class would include a homogeneous lot of items which, as a group, would be likely to react to the same economic causes. These several classes of activity can then be either justified or condemned according to the economic evidence for, or against them. Certain it is that the administrator knows he cannot pay out of pocket for costs or expenses any more cash than he may get from customers; and, if he does not keep expenses in line with income, the penalty will be reduced earnings and eventually reduced capacity for production.

When the search for lazy dollars is well organized, we then have a complete budgetary procedure, which begins with an estimate of sales dollar income. We set up such budgets, not to make records of fixed realities, but because of the reality that conditions can be regulated or changed. "To regulate" means to make regular, or orderly; or to "adjust by rule"; and that is just what the budget should do.

As a rule, any disbursement that exceeds its share of probable income, is held responsible for loss of profit and the excess disbursement must justify its existence or be eliminated. Every activity creating expenditure must be proportioned according to its ability to add to revenues or to reduce costs and thus contribute a share of net profits.

In the field of marketing this principle is applied through a procedure we have come to call "sales budgeting." A sales budget is an estimate of the sales that are to be, not an abstract calculation of what ought to be, nor what, sometime in the future, may be.

Therefore, estimates are built up synthetically by territories, each of which is in charge of a local manager. Each local manager's territorial estimate, by product lines and by total, is reviewed in turn by the regional manager, by the general sales manager, and by the central planning section of the president's office. As a part of the procedure, headquarters executives should take steps to readjust all sales efforts with a view to improving efficiency to the utmost.

Just as it was formerly appreciated that certain machines were best adapted to certain types of fabricating, and that other machines were adapted to other types, so analysis will discover that there are material differences in the values of territories, of salesmen and of customers. If a particular salesman is below par for lack of additional customers of the right sort, and if his present list of short-line customers cannot be induced to purchase and stock our full line, then, at least part of that salesman's efforts should be turned in another direction where his expense can bring back a profitable return. For there are only two ways to reduce selling costs. We may sell more volume at the same dollar cost; or, if we may not wisely expect more volume, we can sell that same volume at a lesser cost.

Through the periodical reviews afforded by sales budget procedures, keen management will see to it that policies will be changed, or a re-direction of effort planned, wherever the initial estimates show that inefficiencies are creeping in. After diagnosing the symptoms, it is but the next step to consult with the specialist of each locality, prescribe a suitable tonic and then confidently rely upon him to administer the curatives.

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SEMCO WORKMANSHIP
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are built into every Stebbins Lining for

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STEBBINS Engineering & Manufacturing Company

WATERTOWN, New York SEATTLE, Washington

PAPER MILLS

are switching to

"S" BRAND
SILICATE

More mills are using "S" Brand to improve their papers. And many times too, it means the difference between just breaking even and netting a profit.

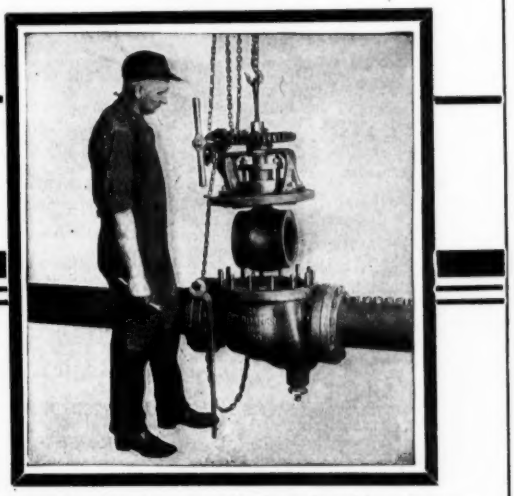
It's an excellent time right now to look into the possibility of improvement in quality or costs. Let us tell you more about "S" Brand for various papers.

Eight Plants: Stocks in Fiftyfive Cities

PHILADELPHIA QUARTZ CO.

General offices and Laboratory
121 S. Third St., Philadelphia
Chicago office: 205 W. Wacker Drive
1831—BEGINNING ANOTHER CENTURY—1931

FAIRBANKS NEW "SPHERO" VALVE



Continuous operation in paper mills demands quick replacements to all equipment.
SPHERO VALVES are easily repaired without detaching the body from the pipe line.
Lever type in sizes ¼-in. to 4-in. Gear type in sizes 4-in., 6-in. and 8-in. For 200 Pounds Steam Working Pressure.

Write for Bulletin V-103

THE FAIRBANKS COMPANY
BOSTON NEW YORK PITTSBURGH
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503 Market St., San Francisco, Cal.
Sixth and Chestnut Sts., Philadelphia, Pa.

IMPORTS OF PAPER AND PAPER STOCK

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING SEPTEMBER 19, 1931

SUMMARY

Cigarette paper	7 bls., 1163 cs.
Wall paper	8 cs.
Paper hangings	2 cs.
Painted paper	4 cs.
News print	10,878 rolls
Printing paper	68 cs.
Wrapping paper	50 bls., 21 cs.
Filter paper	265 bls., 14 cs.
Decalcomania paper	11 cs.
Surface coated paper	121 cs.
Metal coated paper	18 cs.
Colored paper	10 cs.
Envelopes	10 cs.
Writing paper	14 cs.
Paste boards	31 cs.
Cover paper	7 cs.
Stencil paper	11 cs.
Card board	1 cs.
Card board boxes	73 cs.
Miscellaneous paper	31 cs.

CIGARETTE PAPER

Max Spiegel & Son, Pr. Polk, Genoa, 7 bls.
Brown & Williamson Tobacco Co., Olympic, Southampton, 25 cs.
Brown & Williamson Tobacco Co., Paris, Havre, 5 cs.
Brown & Williamson Tobacco Co., De Grasse, Havre, 4 cs.
Champagne Paper Corp., De Grasse, Havre, 15 cs.
American Tobacco Co., De Grasse, Havre, 550 cs.
Standard Products Corp., De Grasse, Havre, 68 cs.
Liggett & Myers Tobacco Co., De Grasse, Havre, 30 cs.
Champagne Paper Corp., Schodack, Havre, 466 cs.

WALL PAPER

Bush Service Corp., N. Amsterdam, Rotterdam, 1 cs.
A. L. Diament & Co., Olympic, Southampton, 1 cs.
Guaranty Trust Co., New York, Hamburg, 6 cs.

PAPER HANGINGS

Whiting & Patterson Co. Inc., Minnekahda, London, 1 cs.
Whiting & Patterson Co. Inc., Mauretania, Southampton, 1 cs.

PAINTED PAPER

H. E. Goold & Sons, Inc., Pr. Grant, Shanghai, 3 cs.
Hensel Bruckman & Lorbacher, Paris, Havre, 1 cs.

NEWS PRINT

Bank of Montreal, Cornerbrook, Cornerbrook, 6757 rolls.
W. H. Bell, Markland, Liverpool, N. S., 3957 rolls.
——, New York, Hamburg, 164 rolls.

PRINTING PAPER

P. C. Zuhkle, Belgenland, Antwerp, 25 cs.
E. Dietzgen & Co., N. Amsterdam, Rotterdam, 27 cs.
International Forwarding Co., J. Jadot, Antwerp, 16 cs.

WRAPPING PAPER

J. P. Heffernan Paper Co., Cristobal Colon, Bilboa, 50 bls.
F. C. Strype, J. Jadot, Antwerp, 14 cs.
C. Steiner, New York, Hamburg, 7 cs.

FILTER PAPER

J. Manheimer, Olympic, Southampton, 205 bls., 1 cs.
C. Schelicher & Schull Co. Inc., Reliance, Hamburg, 13 cs.
A. Giese & Son, Mauretania, Southampton, 60 bls.

DECALCOMANIA PAPER

C. W. Sellers, Reliance, Hamburg, 7 cs.
C. W. Sellers, New York, Hamburg, 4 cs.

SURFACE COATED PAPER

P. C. Zuhlke, Belgenland, Antwerp, 4 cs.
Gevaert Co. of America, Belgenland, Antwerp, 109 cs.
Phoenix Shipping Co., New York, Hamburg, 2 cs.
International Forwarding Co., New York, Hamburg, 6 bls.

METAL COATED PAPER

Taub Hummel & Schnall, New York, Hamburg, 11 cs.
K. Pauli Co., New York, Hamburg, 7 cs.

COLORED PAPER

E. Daiber, Belgenland, Antwerp, 1 cs.
Borden Riley Paper Co., Belgenland, Antwerp, 4 cs.
National Freight Co., New York, Hamburg, 5 cs.

ENVELOPES

Simfred Co. Inc., New York, Hamburg, 10 cs.

WRITING PAPER

Inter-Ocean Forwarding Co., Minnekahda, London, 4 cs.
Guibout Freres, Olympic, Southampton, 5 cs.
Globe Shipping Co., Mauretania, Southampton, 5 cs.

PASTE BOARDS

Coty Processing Co. Inc., Paris, Havre, 29 cs.
S. H. Pommerance, De Grasse, Havre, 2 cs.

COVER PAPER

International Forwarding Co., Milwaukee, Hamburg, 7 cs.

STENCIL PAPER

Bush Service Corp., Milwaukee, Hamburg, 2 cs.
1st Natl. Bank of Boston, New York, Hamburg, 9 cs.

CARD BOARD

S. H. Pommerance, Minnekahda, London, 1 cs.

CARD BOARD BOXES

Framercan Importing Co., Pr. Polk, Marseilles, 12 cs.
Gevaert Co. of America, Belgenland, Antwerp, 1 cs.
——, Milwaukee, Hamburg, 60 cs.

MISCELLANEOUS PAPER

B. F. Drakenfeld & Co., Laconia, Liverpool, 5 cs.
Tamm & Co., City of Alton, Rotterdam, 11 cs.
A. Flinn & Co., Paris, Havre, 1 cs.
H. Gallana & Co., Paris, Havre, 1 cs.
Titan Shipping Co., Paris, Havre, 1 cs.
G. W. Sheldon & Co., Paris, Havre, 1 cs.
Globe Shipping Co., Paris, Havre, 3 cs.
Stern Bros., De Grasse, Havre, 5 cs.
A. C. Dodman Jr. & Co. Inc., De Grasse, Havre, 1 cs.
Schneider Bros., De Grasse, Havre, 2 cs.

RAGS, BAGGINGS, ETC.

T. D. Downing & Co., California, Glasgow, 193 bls. dark cottons; 88 bls. bagging.
——, California, Glasgow, 38 bls. paper stock.
Brown Bros. Harriman & Co., California, Glasgow, 136 bls. rags.
E. J. Keller Co. Inc., J. Jadot, ——, 25 bls. rags.
E. J. Keller Co. Inc., Cold Harbor, ——, 39 bls. rags.
Amtorg Trading Corp., Sagauche, Leningrad, 132 bls. rags.
L. Rosenbaum & Co., Shodack, Havre, 77 bls. rags.
E. J. Keller Co. Inc., Shodack, ——, 61 bls. new cuttings.
Darmstadt Scott & Courtney, Shodack, Dunkirk, 56 bls. bagging.
Chemical Bank & Trust Co., G. Washington, Bremen, 156 bls. bagging.
Bank of N. Y. & Trust Co., Cristobal Colon, Coruna, 39 bls. fustians.
Banco Coml Italiana Trust Co., Cypria, Savona, 221 bls. bagging.
——, Cypria, Savona, 113 bls. bagging.
Bank of N. Y. & Trust Co., Cypria, Barcelona, 160 bls. rags.
S. Birkenstein & Son, Cabo Tortosa, Bacelona, 126 bls. rags.
Union Waste Co., New York, Hamburg, 53 bls. scrap cloth.
E. J. Keller Co. Inc., Statendam, ——, 23 bls. rags.
E. J. Keller Co. Inc., Exchester, ——, 138 bls. bagging.
E. J. Keller Co. Inc., Sierra Ventana, ——, 30 bls. rags
E. J. Keller Co. Inc., Waukegan, ——, 70 bls. rags.

OLD ROPE

Baring Bros. & Co., Bordino, Hull, 117 coils.
Brown Bros. Harriman & Co., Cristobal Colon, Santander, 60 bls.

CHINA CLAY

C. B. Chrystal & Co. Inc., Laconia, Liverpool, 28 bags.
——, Laconia, Liverpool, 84 bags.

WOOD PULP

Lagerloef Trading Co., Kolsnaren, Rauma, 2180 bls. sulphite.
Lagerloef Trading Co., Kolsnaren, Wiborg, 300 bls. sulphate.
Lagerloef Trading Co., Kolsnaren, Kotka, 1137 bls. sulphite.
Castle & Overton, Inc., N. Amsterdam, Rotterdam, 320 bls. wood pulp.
Johaneson Wales & Sparre, Inc., Chile Maru, Hamburg, 476 bls. sulphite, 71 tons.
J. Anderson & Co., Chile Maru, Hamburg, 275 bls. wood pulp, 54 tons.
E. J. Keller Co. Inc., Chile Maru, ——, 355 bls. wood pulp, 54 tons.
Bulkley Dunton & Co., Kungsholm, ——, 1980 bls wood pulp.

PULPWOOD

Amtorg Trading Corp., Sagauche, Leningrad, 1395 cords.

WOOD PULP BOARDS

Johaneson Wales & Sparre, Inc., Kolsnaren, Wiborg, 569 rolls.
Lagerloef Trading Co., Kolsnaren, Kotka, 5 rolls, 67 bls.

WOOD FLOUR

State Chemical Co., N. Amsterdam, Rotterdam, 700 bags.
Corn Exchange Bank, City of Alton, Rotterdam, 546 bags, 34460 kilos.

PHILADELPHIA IMPORTS

WEEK ENDING SEPTEMBER 19, 1931

Castle & Overton, Inc., Kolsnaren, Wiborg, 1660 bls. dry pulp.
Lagerloef Trading Co., Kolsnaren, Wiborg, 13753 bls. sulphite; 480 bls. sulphate.
Lagerloef Trading Co., Kolsnaren, Rauma, 620 bls. sulphite.
Lagerloef Trading Co., Kolsnaren, Kotka, 440 bls. sulphite; 900 bls. wood pulp; 708 rolls wood pulp boards; 271 bls. wood pulp boards.
J. W. Hampton Jr. Inc., Kolsnaren, Kotka, 54 rolls news print.
Lancaster News, Kolsnaren, Kotka, 51 rolls news print.
Castle & Overton, Inc., West Selene, Montevideo, 44 bls. rags.

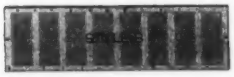
(Continued on page 50)

Union Screen Plate Company

Fitchburg, Mass., U. S. A. Lennoxville, P. Q., Canada

UNION BRONZE

SCREEN PLATES FOR FLAT SCREENS
6 SLOTS—5 SLOTS—4½ SLOTS—4 SLOTS—PER INCH



Old Plates Reclosed and Re-cut to Accurate Gauge
Rolled Phosphor Bronze and Copper Plates for Rotary Screens

Sole Manufacturers of the Union Witham Screen Plate Vat and Fastener

TRIUNE
AND
MULTIPLE PLY DRYER FELTS

Serve every Felt Purpose in an efficient and satisfactory way.

ENGLISH or BAKER WOVEN

Made in three, four, five and six ply—60" to 214" wide.

FITCHBURG DUCK MILLS
FITCHBURG, MASS.

For 87 Years Makers of Fine Faced Felts For Papermakers

1864 **1931**

"EXCELSIOR" FELTS

for every grade of

PULP AND PAPER

We continue to maintain at the top the quality of Excelsior Felts, as we have done since we, as pioneers, made the first endless paper machine felts manufactured in America.

Seamless felts for fast running.
Satin Style felts for finish.
Special felts to meet every condition.
Send us your felt problems.

KNOX WOOLEN COMPANY
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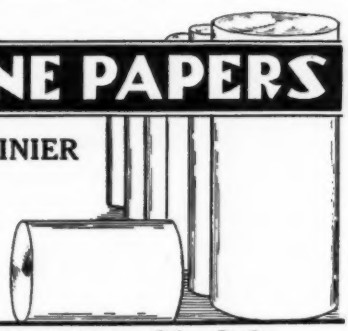
75-77 Duane St., N. Y., and direct

FINE FELTS for FINE PAPERS

FOR CYLINDER AND FOURDRINIER MACHINES

Let us solve your FELT Problems.



THE WATERBURY FELT CO.
SKANEATELES FALLS, N.Y.

Imports of Paper and Paper Stock

(Continued from page 48)

H. J. Baker & Bro., West Selene, Montevideo, 139 bags glue stock.
E. J. Keller Co. Inc., London Citizen, ——, 152 coils old rope.
V. Galaup, Schodack, Dunkirk, 109 coils old rope.
Natl. Vulcanized Fibre Co., Schodack, Dunkirk, 66 bls. rags.
J. M. Hagy Waste Works, Schodack, Dunkirk, 25 bls. rags.
Union Waste Co., Schodack, Dunkirk, 16 bls. rags.
V. Galaup, Schodack, Havre, 58 bls. rags.
——, Exilona, Alexandria, 79 bls. rags.
E. J. Keller Co. Inc., Cypria, ——, 65 bls. rags.
E. J. Keller Co. Inc., West Eldara, ——, 39 bls. rags; 100 bls. bagging.
E. J. Keller Co. Inc., Blommersdyk, ——, 109 bls. rags.
E. J. Keller Co. Inc., Executive, ——, 95 bls. rags.
E. J. Keller Co. Inc., Reimscheid, ——, 110 bls. rags.
E. J. Keller Co. Inc., Sac City, ——, 142 bls. bagging.
E. J. Keller Co. Inc., Seattle Spirit, ——, 554 bls. wood pulp.

NORFOLK IMPORTS

WEEK ENDING SEPTEMBER 19, 1931

E. J. Keller Co. Inc., Iserholm, ——, 46 bls. rags.

BALTIMORE IMPORTS

WEEK ENDING SEPTEMBER 19, 1931

Bank of Montreal, Cornerbrook, 2488 rolls news print.
Bulkley Dunton & Co., Hedderheim, ——, 2750 bls. wood pulp.
Bulkley Dunton & Co., Vasaholm, ——, 750 bls. wood pulp.
Parsons & Whittemore, Inc., America, ——, 600 bls. sulphate.
Russell McCandless, America, Gothenburg, 1200 bls. unbleached sulphite.

BOSTON IMPORTS

WEEK ENDING SEPTEMBER 19, 1931

Atkinson Haserick Co., Pr. Polk, Genoa, 6 cs. paper.
Bulkley Dunton & Co., Hedderheim, ——, 2330 bls. wood pulp.

Accident Prevention Contest

ALBANY, N. Y., September 21, 1931—Many paper concerns in this section are among those registered in the seventh annual state-wide accident prevention contest which was inaugurated this month. The campaign is under the supervision of Associated Industries of New York State and trophies will be awarded the winners at its termination late in November. It was learned that 1,765 firms employing about 313,000 workers are enrolled in the contest which is the largest number ever recorded inasmuch as there were 1,428 concerns with 300,000 workers participating in the last drive. The firms have been allotted places in certain groups and a report of accidents and lost time of workers will be sent to the supervisory committee which will be located in the city of Buffalo.

Chamber of Commerce organizations in the various cities have aided in listing entrants in the contest and they will continue to co-operate with Associated Industries until it is ended. A weekly list of the percentage standings is being issued based on the information forwarded to the supervisory committee and more than 100,000 posters have been distributed to the contestants in which warning is given against careless practices and unsafe conditions. In the 1930 drive more than one-half of the contestants were given prizes for exceptionally good records and records already published indicate that the number this year will again be high.

It is expected that a celebration will be held soon after the contest is ended at which representatives will present the prizes to the winners. At the conclusion of the contest last year a series of such gatherings were held in the various cities at which the trophies were awarded. The contests have already met the approval of manufacturers inasmuch as the competition provided has been largely the means of reducing accidents to a minimum in the various plants.

Oberdorfer Elected Bank President

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., September 18, 1931.—Max Oberdorfer, president and manager of the St. Helens Pulp & Paper Company, St. Helens, Oregon, was elected president of the First National Bank of St. Helens at the annual meeting this month. He had been a member of the board of directors for two years.

Stream Contamination

Dauphin, Ohio, September 14, 1931.

EDITOR: PAPER TRADE JOURNAL

Your issue of September 10, 1931 has just been received, and I note the contribution from Dayton, Ohio, dated Sept. 1, 1931, with a heading "Investigation of Contamination in Miami River."

The article goes on to state that State officials were investigating the wholesale killing of fish life in the Miami river near the Main Street bridge in Dayton and have reported that the contamination from the outlet near a paper mill has been the direct cause * * *.

Examination of the river water north of the outlet shows that fish life has not been contaminated, thus directly tracing the result of the contamination directly from the mills.

During the past twenty years the writer has seen many articles upon the destruction of fish life by paper mill refuse, and he is rather inclined to think that there is just about as much foundation for these reports as there is in the case cited above. The facts are that the above refers to the Peerless Paper Company in Dayton, which mill has been closed for over two years and the buildings have been leased for office use. Further comment on the pollution of water in the Miami river above the Main Street bridge is hardly necessary.

Several years ago when the stream pollution was being agitated in connection with water of Paint Creek and the Scioto river the writer secured a number of gold fish, placed them in a bowl filled with water from Honey Creek sewer which received all of the drainage from our Soda Mill and White Paper division and the tiny gold fish seemed to like it.

Yours truly,
R. T. HOUK,
The Mead Corp.

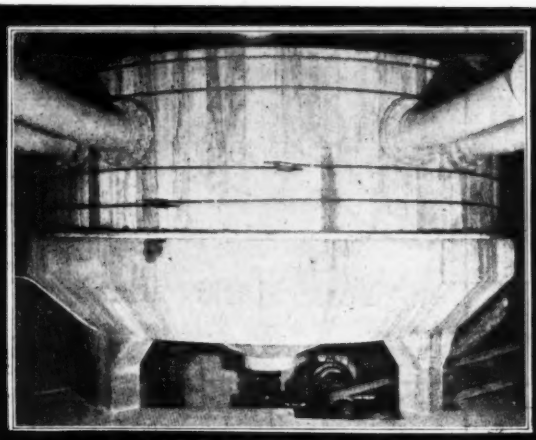
Dr. Lodewick New Forest Service Chief

PORTLAND, Ore., September 18, 1931.—Dr. John Elton Lodewick has been appointed chief of the section of forest products at the Pacific Northwest Experiment Station in Portland, according to announcement of Thornton T. Munger, director. Dr. Lodewick arrived in the West September 15. He succeeds W. H. Gibbons, recently transferred to the Washington, D. C., office of the forest service after many years spent as chief of the forest products division in Portland.

WOOD PULP
AGENTS

PRICE & PIERCE, Ltd.,

60 EAST 42nd ST.
NEW YORK



WOOD TANKS

Wood Staves Fitted to Concrete Conical Bottom—A Paper Mill Installation.

All tanks are accurately made and only the best material and workmanship are used in their construction.

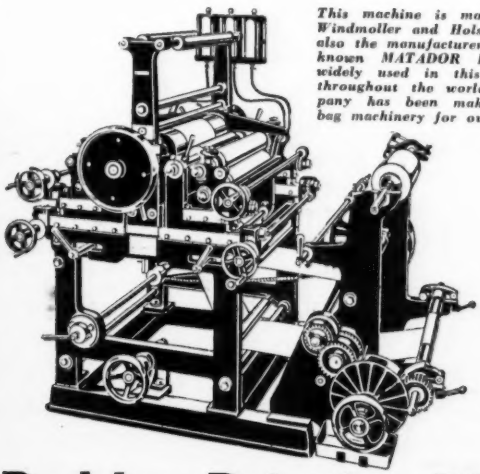
No tanks carried in stock—all tanks made to order for your special purpose.

Our shipping facilities are unexcelled and we are prepared to fill all orders quickly.

We maintain a Special Department for the purpose of co-operating with Engineers and Chemists in determining the most suitable material and construction of tanks for their particular needs.

The Hauser-Stander Tank Co., *Cincinnati, Ohio*

"Grif-Ho"
DISPENSING CABINETS
AND
FIXTURES
THE STANDARD OF THE PAPER TRADE
GRIFFITH-HOPE CO.
WEST ALLIS, WIS.



This machine is manufactured by Windmoller and Holscher, who are also the manufacturers of the well-known MATADOR Bag Machines, widely used in this country and throughout the world. This company has been making successful bag machinery for over sixty years.

Rubber Printing Plates and Aniline Inks

In addition to "Matador" Bag Machines, Aniline Printing Presses, etc., we are prepared to furnish, through a company associated with H. H. Heinrich, Inc., a superior grade of Aniline Printing Inks and a new line of equipment for making Rubber Printing Plates. The latter equipment includes a new Hydraulic-Electric Vulcanizer, capable of producing rubber plates of 65-screen halftones.

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H. H. Heinrich, Inc., 15 Park Row, New York

New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, September 23, 1931.

Trading in the local paper market was slightly more active during the past week. Demand for the various standard grades is expanding and should be more lively from now until the end of the year, at least. Sales forces of the leading paper houses are conducting a strenuous sales campaign and the outlook is brighter than of late.

Production of news print has improved and the mills in the United States and Canada operated at 57 per cent of rated capacity during the past week, according to information gathered by the News Print Service Bureau. The movement of supplies into consumption was slightly ahead of the output. There are signs of seasonal expansion in advertising and circulation.

Demand for paper board is fairly persistent. There is a better feeling in the box board industry, although the price situation continues unsatisfactory. The fine paper market is exhibiting a stronger undertone. Tissues are going forward in good volume. No radical changes were reported in the coarse paper market. Prices are generally holding to formerly quoted levels.

Mechanical Pulp

The ground wood market is displaying a fairly steady trend. With production in North America and abroad curtailed somewhat, offerings are not excessive, and while demand is light at present, prices continue steady and unchanged. There are a number of inquiries around, some of which should materialize into good business.

Chemical Pulp

Conditions in the chemical pulp market are easier now that the Norwegian pulp mill workers' strike has been settled, and quotations on several of the grades have declined. Imported No. 1 strong unbleached sulphite is now offered at from $1.85 to $2.25 and imported No. 1 kraft at from $1.50 to $1.75, on dock, Atlantic ports. Domestic easy bleaching sulphite is selling at from $2.15 to $2.35 f.o.b. pulp mill; and soda bleached at $2.75, delivered paper mills.

Old Rope and Bagging

The old rope market continues quiet. Demand for both domestic and imported old manila rope is restricted. Small mixed rope, also, is dull. The bagging market is fairly active. Scrap bagging is moving freely, while roofing bagging is in seasonal request. Gunny bagging is spotty. Prices remain unchanged, in most instances.

Rags

Paper mill intertst in the domestic rag market is not particularly noticeable at present. Cotton cuttings are only moderately active. Demand for the roofing grades has fallen off, to some extent. Mixed rags are listless. Prices are irregular. The foreign rag situation is practically unchanged.

Waste Paper

The paper stock market is still exhibiting a strong undertone. Board mill demand for the lower grades continues persistent, especially for strictly folded news, offerings of which are scarce and prices firm. While the higher grades are not quite so active, prices are generally well maintained.

Twine

Steadiness prevails in the local twine market. Although the majority of business transactions are along routine lines, sales are holding up very well and should expand materially during the closing months of the year. Inquiries for future needs are fairly numerous and the price situation is fairly satisfactory, considering the depression.

H. Biermans To Have Executive Position

MONTREAL, Que., September 21, 1931.—That there is a strong likelihood of an important executive position in the newly-formed Consolidated Paper Corporation being offered to H. Biermans, former president of the Belgo-Canadian Paper Company, is the announcement made by the *Financial Times,* of Montreal. Mr. Biermans took an active part in opposing the Canada Power and Paper plans as they affected the security holders of the Belgo Company, but is now stated to have deposited his personal holdings of Belgo securities for inclusion under the reorganization plan, at the same time commending the Protective Committee on their choice of a chief executive, stating that L. J. Belnap is the best man that could possibly have been selected.

Mr. Biermans not only has unusual sales ability and wide connections among news print consumers, but has remarkable achievements to his credit in the management of mills. Prior to its entry in the St. Maurice Valley merger, the Belgo Company under him had become one of the most successful and efficiently operated companies in the news print field in Canada.

H. E. Machold Injured

WATERTOWN, N. Y., September 19, 1931.—H. Edmund Machold, of the St. Regis Paper Company, was the victim of severe injuries early this week when he met with an automobile accident near the village of Scarsdale. He is said to be suffering from two fractured ribs and numerous cuts and bruises. The accident occurred while his car was moving at a slow rate of speed which is believed to have saved him from being killed. When the other car crashed he was thrown heavily against the side of his car and following examination it was decided that hospital treatment would not be necessary. Although the chauffeur escaped injury the car was considerably damaged. It is expected that his injuries will not prevent him from delivering an address at the Jefferson County Golf Club late this week before a gathering of prominent business men of Northern New York.

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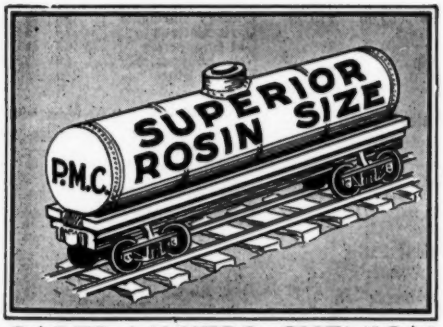

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Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, September 23, 1931.

BLANC FIXE.—Trading in the blanc fixe market was moderately active during the past week. Prices remain unchanged. The pulp is quoted at from $42.50 to $45.00 per ton, while the powder is selling at from 3¾ cents to 4½ cents per pound, in barrels, at works.

BLEACHING POWDER.—The bleaching powder market was fairly steady. Shipments against contract are proceeding with regularity. Prices are generally holding to schedule. Bleaching powder is quoted at from $1.75 to $2.00 per 100 pounds, in drums, at works.

CASEIN.—Demand for casein is expanding. Domestic standard ground is still quoted at 6 cents and finely ground at 7½ cents per pound. Argentine standard ground is selling at 8½ cents and finely ground at 9½ cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—Steadiness prevails in the caustic soda market. Prices are holding to schedule. Solid caustic soda is quoted at from $2.50 to $2.55; while the flake and the ground are selling at from $2.90 to $2.95 per 100 pounds, in large drums, at works.

CHINA CLAY.—Supplies of china clay are moving into consumption at a satisfactory pace. Prices continue steady. Imported china clay is quoted at from $13 to $21 per ton, ship side; while domestic paper making clay is selling at from $7 to $11 per ton, at mine.

CHLORINE.—The position of the chlorine market is practically unchanged. Contract quotations are going forward in satisfactory volume. Prices remain unaltered. Chlorine is quoted at $1.75 per 100 pounds, in tanks, or multi-unit cars, in ton lots, or over, at works.

ROSIN.—Conditions in the rosin market are easier. The grades of gum rosin used in the paper mills are quoted at from $4.05 to $4.15 per 280 pounds, in barrels, at works. Wood rosin is selling at $3.70 per 280 pounds, in barrels, on dock, car lot quantities.

SALT CAKE.—The salt cake market is exhibiting a strong undertone. Prices are steady. Salt cake is quoted at from $16 to $17 and chrome salt cake at from $14 to $15 per ton, in bulk, at works. Imported salt cake is selling at from $15 to $15.50 per ton, ship side.

SODA ASH.—Supplies of soda ash are going forward to the paper mills at a fairly satisfactory pace. Prices remain unchanged. Quotations on soda ash, in car lots, at works, per 100 pounds, are as follows: in bulk, $1.00; in bags, $1.25; and in barrels, $1.38.

STARCH.—Most of the business transacted in the starch market during the past week was along routine lines. Prices continue steady. Special paper making starch is quoted at $2.67, in bags; and at $2.94 per 100 pounds, in barrels, at works.

SULPHATE OF ALUMINA.—Some improvements was reported in the demand for sulphate of alumina. Prices are holding to schedule. Commercial grades are quoted at from $1.25 to $1.40, while iron free is selling at from $1.90 to $2.05 per 100 pounds, in barrels, at works.

SULPHUR.—The sulphur market is fairly active. Sulphur is quoted at $18 per long ton on orders of 1,000 tons, or over, on yearly contracts; and at $20 per ton for any smaller quantity over that period. On spot and near by car loads, the quotation is $21 per ton.

TALC.—Paper mill demand for talc is fairly persistent. The contract movement is well up to average. Prices are holding to formerly quoted levels. Domestic talc is selling at from $16 to $18 per ton, in bulk; and imported talc at from $18 to $22 per ton, ship side.

Market Quotations

Paper

(F. o. b. Mill)

Ledgers	11.00	@38.00
Bonds	6.75	@53.25
Writings—		
Extra Superfine	14.00	@32.00
Superfine	14.00	@32.00
Tub sized	10.00	@15.00
Engine sized	6.75	@11.00
Book, Cased—		
S. & S. C.	5.25	@ —
M. F.	5.00	@ —
Coated and Enamel	6.75	@10.25
Lithograph	7.25	@11.75
Tissues—Per Ream—		
White No. 1	.65	@ .70
Anti-Tarnish M. G. only	.65	@ .70
Colored	.70	@ .90
White No. 2	.55	@ .60
Kraft	.65	@ .70
Manila	.55	@ .60
Manila—		
No. 1 Jute	9.00	@ 9.25
No. 2 Jute	7.75	@ 8.50
No. 1 Wood	4.00	@ 5.25
No. 2 Wood	3.50	@ 4.00
Butchers	3.37½	@ —
Fibre Papers—		
No. 1 Fibre	4.25	@ 5.50
No. 2 Fibre	4.00	@ 4.75
Common Bogus	1.50	@ 3.00
Screenings	2.00	@ 3.00
Card Middles	4.00	@ 5.00
Glassine—		
Bleached, basis 25 lbs., No. 1	.09¼	@ —
No. 2	.11¼	@ —
Bleached, basis 20 lbs.	.11¼	@ —

(Delivered New York)

News, per ton—		
Rolls, contract	57.00	@ —
Rolls, spot	57.00	@ —
Sheets	62.00	@ —
Side Runs	42.00	@46.00
Kraft—		
No. 1 Domestic	4.50	@ 5.75
No. 2 Domestic	4.00	@ 4.50
Southern	3.45	@ 4.25
Imported	6.00	@ 7.00
Boards—per ton—		
News	26.00	@27.50
Straw	34.50	@45.00
Chip	25.00	@27.50
Binders' Boards	62.00	@70.00
Standard 85 Test Liner	32.50	@35.00
Sgl. Mla. (Jl. Chip	37.50	@42.50

(F. o. b. Mill)

Wood Pulp Boards	70.00	@80.00

Mechanical Pulp

(On Dock)

No. 1 Imported—		
Moist	24.00	@28.00
Dry	26.00	@28.00

(F. o. b. Mill)

No. 1 Domestic	25.00	@30.00

Chemical Pulp

(On Dock, Atlantic Ports)

Sulphite (Imported)—		
Bleached	2.50	@ 3.50
Easy Bleaching	2.10	@ 2.25
No. 1 strong unbleached	1.85	@ 2.25
Mitscherlich unbleached	1.90	@ 2.10
No. 2 strong unbleached	1.70	@ 1.80
No. 1 Kraft	1.50	@ 1.75
No. 2 Kraft	1.40	@ 1.50
Sulphate—		
Bleached	2.75	@ 3.25

(F. o. b. Pulp Mill)

Sulphite (Domestic)—		
Bleached	2.25	@ 4.75
Easy Bleaching	2.15	@ 2.35
News	1.80	@ 2.50
Mitscherlich	2.40	@ 3.00
Kraft (Domestic)	1.60	@ 2.75

(Delivered Paper Mills)

Soda Bleached	2.75	@ —

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—		
New White, No. 1	6.50	@ 7.00
New White, No. 2	5.50	@ 6.00
Silesias No. 1	5.25	@ 5.50
New Unbleached	7.00	@ 7.50
New Blue Prints	4.00	@ 4.50
New Soft Blacks	3.50	@ 4.00
Blue Overall	5.00	@ 5.25
Fancy	3.00	@ 3.50
Washables	2.75	@ 3.00
Mixed Khaki Cuttings	3.50	@ 4.00
Pink Corset Cuttings	5.00	@ 5.50
O. D. Khaki Cuttings	4.50	@ 4.75
Men's Corduroy	3.00	@ 3.50
New Mixed Blacks	3.00	@ 3.25

Old Rags

White, No. 1—		
Repacked	5.25	@ 5.75
Miscellaneous	4.25	@ 4.75
White, No. 2—		
Repacked	3.00	@ 3.50
Miscellaneous	2.30	@ 2.50
St. Soiled, White	1.50	@ 1.75
Thirds and Blues—		
Repacked	2.25	@ 2.50
Miscellaneous	1.65	@ 1.85
Black Stockings	3.25	@ 3.75
Roofing Rags—		
Cloth Strippings	1.25	@ 1.30
No. 1	1.25	@ 1.30
No. 2	.90	@ 1.00
No. 3	.70	@ .80
No. 4	.65	@ .70
No. 5A	.50	@ .60

Foreign Rags

New Rags

New Dark Cuttings	2.00	@ 2.15
New Mixed Cuttings	2.10	@ 2.40
New Light Silesias	5.00	@ 5.38
Light Flannelettes	5.00	@ 5.25
Unbleached Cuttings	6.50	@ 6.75
New White Cuttings	6.00	@ 6.25
New Light Oxfords	5.00	@ 5.50
New Light Prints	3.10	@ 3.25

Old Rags

No. 1 White Linens	6.25	@ 6.50
No. 2 White Linens	5.25	@ 5.50
No. 3 White Linens	3.75	@ 4.25
No. 4 White Linens	2.25	@ 2.75
No. 1 White Cotton	4.50	@ 5.00
No. 2 White Cotton	3.50	@ 4.25
No. 3 White Cotton	2.50	@ 3.25
No. 4 White Cotton	1.50	@ 1.75
Extra Light Prints	1.90	@ 2.10
Ord. Light Prints	1.75	@ 1.90
Med. Light Prints	1.40	@ 1.55
Dutch Blue Cottons	1.50	@ 1.60
French Blue Linens	2.25	@ 2.40
German Blue Linens	2.00	@ 2.10
German Blue Cottons	1.35	@ 1.40
Checks and Blues	1.40	@ 1.45
Lindsay Garments	.90	@ 1.00
Dark Cottons	.70	@ .75
Old Shopperies	.65	@ .70
New Shopperies	.60	@ .65
French Blues	1.40	@ 1.50

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—		
Foreign	1.55	@ 1.65
Domestic	1.65	@ 1.80
Wool Tares, light	1.15	@ 1.20
Wool Tares, heavy	1.15	@ 1.20
Bright Bagging	1.10	@ 1.15
Small Mixed Rope	.90	@ 1.00
Manila Rope—		
Foreign	1.75	@ 1.85
Domestic	1.90	@ 2.00
New Burlap Cut	1.70	@ 1.80
Hessian Jute Threads—		
Foreign	2.60	@ 2.75
Domestic	2.80	@ 3.00

Old Waste Papers

(F. o. b. New York)

Shavings—		
Hard, white, No. 1	2.65	@ 2.85
Hard, white, No. 2	2.10	@ 2.20
Soft, white, No. 1	2.10	@ 2.20
White envelope cuttings	2.35	@ 2.50
Flat Stock—		
Stitchless	.70	@ .80
Overissue Mag	.70	@ .80
Solid Flat Book	.60	@ .70
Crumpled No. 1	.48	@ .53
Solid Book Ledger	1.75	@ 1.85
Ledger Stock	.65	@ .75
New B. B. Chips	.20	@ .30
Manilas—		
New Env. Cut	1.75	@ 1.85
New Cuttings	1.40	@ 1.50
Extra No. 1 old	1.10	@ 1.25
Print	.45	@ .50
Bogus Wrapper	.45	@ .50
Container	.30	@ .35
Old Kraft Machine—		
Compressed bales	1.20	@ 1.30
News—		
No. 1 White News	1.60	@ 1.65
Strictly Overissue	.35	@ .45
Strictly Folded	.30	@ .35
No. 1 Mixed Paper	.25	@ .30
Common Paper		Nominal

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Twines
(F. o. b. Mill)

Cotton—			
B. C., 18 basis	.30	@	.32
No. 1	.20	@	.22
No. 2	.19	@	.20
No. 3	.17	@	.18
A. Italian, 18 basis	.36	@	.37
Finished Jute—			
Dark, 18 basis	.18	@	.20
Light, 18 basis	.20	@	.22
Jute Wrapping, 3-6 Ply—			
No. 1	.13	@	—
No. 2	.11	@	—
Tube Rope—			
4-ply and larger	.09	@	—
Fine Tube Rope—			
4-ply	.11	@	—
3-ply	.12	@	—
2-ply	.13	@	—
Paper Makers Twine Balls	.07	@	—
Box Twine, 2-3 ply	.07	@	.08
Jute Rope	.09	@	.10
Amer. Hemp, 6	.27	@	.29
Java Sisal—			
No. 1 Basis	.10	@	—
No. 2 Basis	.09	@	—
New Zealand Sisal	.10	@	—
Sisal Lath Yarn—			
No. 1	.12	@	.14
No. 2	.10	@	.12
Manila Twine	.21	@	.22

CHICAGO

Paper
(F. o. b. Mill)

Rag Bond	.30	@	.53¼
Water Marked Sulphite Bond	.09	@	.12
Sulphite Bond	.06¾	@	.11
Superfine Writing	.18	@	.24
No. 1 Fine Writing	.14	@	.18
No. 2 Fine Writing	.12	@	.14
No. 3 Fine Writing	.08½	@	.12
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05¼	@	.06¼
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07½	@	.12
Coated Label	.07½	@	.10
No. 1 Manila	.04¼	@	.05¾
No. 1 Fibre	.04¾	@	.05¼
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.04	@	.04½
No. 1 Kraft	5.00	@	5.50
Southern Kraft	3.75	@	4.00
No. 2 Kraft	3.75	@	4.00
Wood Tag Boards	.04¼	@	.06¼
Sulphite Screenings	.03	@	.03¾
Manila Tissue	.07	@	.07¾
White Tissue	.07¼	@	.07½
(Delivered Central Territory)			
News, per ton—			
Rolls, contract	57.00	@	—
Sheets	62.00	@	—
Boards, per ton—			
Plain Chip	30.00	@	35.00
Solid News	32.50	@	37.50
Manila Lined Chip	40.00	@	45.00
Container Lined—			
85 Test	50.00	@	55.00
100 Test	55.00	@	60.00

Old Papers
(F. o. b. Chicago)

Shavings—			
No. 1 Hard White	2.35	@	2.40
White Env. Cuttings	—	@	—
No. 1 Soft Shavings	2.10	@	2.15
Ledger & Writings	.70	@	.75
Solid Books	.75	@	.80
Blanks	1.60	@	1.65
Krafts	1.25	@	1.35
New Kraft Cuts	1.35	@	1.45
Manila Env. Cuts	1.50	@	1.55
Ex. No. 1 Manila	1.25	@	1.30
Print Manila	.40	@	.45
Overissue News	.40	@	.45
Old Newspapers—			
No. 1	.35	@	.40
No. 2	.30	@	.35
Mixed Papers—			
No. 1	.28	@	.30
No. 2	.20	@	.25
Roofing Stocks—			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper
(F. o. b. Mill)

Bonds	.05	@	.40
Ledgers	.07	@	.40
Writings—			
Superfine	.12	@	.18
Extra fine	.16	@	.22
Fine	.15	@	.26
Fine, No. 2	.12	@	.25
Fine, No. 3	.07	@	.20
Book, M. F.	.04¼	@	.07
Book, S. S. & C.	.05	@	.07½
Book, Coated	.07	@	.16
Coated Lithograph	.06	@	.11
Label	.07	@	.11
No. 1 Jute Manila	.07	@	.09
Manila Sul., No. 1	.03¼	@	.05½
Manila No. 2	.03	@	.04
No. 1 Kraft	.05¼	@	.06
No. 2 Kraft	.03¾	@	.04¼
Southern Kraft No. 1	—	@	.04
Southern Kraft No. 2	—	@	.03¾
Common Bogus	.03	@	.04
(Delivered Philadelphia)			
News Print Rolls	58.00	@	62.00
Straw Board	50.00	@	—
News Board	30.00	@	32.00
Chip Board	25.00	@	27.50
Wood Pulp Board	85.00	@	95.00
Binder Boards—			
No. 1, per ton	73.00	@	75.00
No. 2, per ton	63.00	@	65.00
Carload lots	62.00	@	67.00
Tarred Felts—			
Regular	52.25	@	54.25
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.95	@	2.10
Best Tarred, 2-ply (per roll)	1.50	@	1.60
Best Tarred, 3-ply	2.00	@	2.25

Domestic Rags (New)
(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1.	.06	@	.06½
New White, No. 2.	.05	@	.05½
Light Silesias	.05	@	.05½
Silesias, No. 1	.06	@	.08
Black Silesias, soft.	.05	@	—
New Unbleached	.06	@	.06¼
Washable, No. 1	.02½	@	.03
Blue Overall	.05	@	.05½
Cottons—According to grades—			
Washable, No. 2	.02	@	.02½
New Blue	.02	@	.02½
Fancy	.03	@	.03¼
New Black Soft	.03	@	.03½
New Light Seconds	.01¾	@	.02
New Dark Seconds	1.85	@	2.00
Khaki Cuttings—			
No. 1 O. D.	.04½	@	.05
No. 2 Mixed	.03½	@	.04
Corduroy	.02½	@	.03
New Canvas	.06½	@	.07
New Black Mixed.	.03	@	.03½

Domestic Rags (Old)

White No. 1—			
Repacked	3.50	@	4.00
Miscellaneous	2.25	@	2.75
M. G.	4.50	@	—
Thirds and Blues—			
Miscellaneous	1.25	@	1.50
Repacked	1.75	@	2.00
Black Stockings (Export)	3.80	@	4.00
Roofing Stock—			
Foreign No. 1	1.15	@	1.25
Repacked	.80	@	.90

Bagging
(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.50	@	1.60
Domestic	1.75	@	—
Manila Rope	2.25	@	2.50
Sisal Rope	1.25	@	1.50
Mixed Rope	1.10	@	1.25
Scrap Burlaps—			
No. 1	1.50	@	1.60
No. 2	1.10	@	1.20
Wool Tares, heavy	3.00	@	—
Mixed Strings	1.15	@	1.25
No. 1 New Light Burlap	2.50	@	2.75
New Burlap Cuttings	2.00	@	2.25

Old Papers
(F. o. b. Phila.)

Shavings—			
No. 1 Hard White.	2.30	@	2.50
No. 2 Hard White.	2.00	@	2.25
No. 1 Soft White.	1.75	@	2.00
No. 2 Soft White.	1.40	@	1.50
No. 1 Mixed.	.75	@	.80
No. 2 Mixed.	.50	@	.55
Solid Ledger Stock.	1.35	@	1.40
Writing Paper.	.80	@	1.00
No. 1 Books, heavy.	.70	@	.75
No. 2 Books, light.	Normal		
No. 1 New Manila.	1.60	@	1.75
No. 1 Old Manila.	1.25	@	1.30
Print Manila	.50	@	.55
Container Manila	.40	@	.45
Old Kraft	1.10	@	1.20
Common Paper	.30	@	.40
No. 1 Mixed Paper.	.35	@	.45
Straw Board, Chip.	.35	@	.45
Binders Board. Chip.	.35	@	.45
Corrugated Board	.45	@	.50
Overissue News.	.50	@	.55
Old Newspaper	.30	@	.35

BOSTON

Paper
(F. o. b. Mill)

Ledgers—			
Sulphite	.07½	@	.12½
Rag Content	.15	@	.30
All Rag	.38	@	.52½
Bonds—			
Sulphite	.06½	@	.11½
Rag content	.15	@	.30
All rag	.36½	@	.65
Writings	.06½	@	.20
Superfines	.11	@	.31
Book, Super	.0b	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06½
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.04½	@	.05½
No. 2 Kraft	.03¾	@	.04½
(F. o. b. Boston)			
Southern Kraft	.03¾	@	.04
(F. o. b. destination in carload lots, f. o. b. mill in less than carload lots.)			
Common Bogus	.02	@	.02¾
(Delivered New England points)			
News Print, rolls	—	@	56.50
Straw Board, rolls	.009	—	@52.50
Straw Board in Sheets, basis 35s to 70s	—	@	50.00
Filled News Board	27.50	@	30.00
Chip Board	27.50	@	—
Chip Board (Creasing)	27.50	@	30.00
Single Manila Lined Chip	40.00	@	45.00
Single White, Patent Coated News Board—Binder	52.50	@	60.00
Wood Pulp Board	70.00	@	75.00
Binder Boards	67.50	@	75.00

Old Papers
(F. o. b. Boston)

Shavings—			
No. 1 Hard White	2.75	@	3.50
No. 2 Hard White	2.25	@	2.50
No. 1 Soft White	1.90	@	2.10
No. 2 Mixed	.60	@	.65
No. 1 Mixed	.90	@	1.00
Solid Ledger Books	1.75	@	2.00
Overissue Ledger Stock	1.35	@	1.60
Mixed Ledgers	1.15	@	1.30
No. 1 Books, heavy	.65	@	.75
No. 1 Books, light	—	@	.45
Crumpled Stitchless Book Stock	1.00	@	1.25
Manila Env. Cuttings	1.85	@	2.00
No. 1 Old Manila	—	@	1.00
White Blank News	1.50	@	1.60
No. 1 Kraft	1.25	@	1.35
Manila	.90	@	1.00
No. 1 Mixed Paper	.25	@	.35
Print Manila	.40	@	.45
Overissue News	.40	@	.45
Old Newspapers	.30	@	.40
Box Board, Chip	.16	@	.20
Corrugated Boxes	.37½	@	.47½

Bagging
(F. o. b. Boston)

Gunny No. 1—			
Foreign	1.55	@	—
Domestic	1.50	@	—
Manila Rope—			
Foreign	1.50	@	1.75
Domestic	1.75	@	2.00
Transmission Rope	1.25	@	1.40
Mixed String	.50	@	.55
Jute Rope	1.00	@	1.15
Jute Carpet Threads	.75	@	.90
Bleachery Burlap	2.50	@	2.75
No. 1 Scrap Burlap	1.10	@	1.25
Scrap Sisal	1.35	@	1.45
Scrap Sisal for shredding	1.50	@	1.60
Wool Tares, heavy	1.25	@	1.30
New Burlap Cutting	1.50	@	1.25
Australian Pouches	2.00	@	2.25
Heavy Baling Bagging	1.50	@	1.60
Paper Mill Bagging	.90	@	1.05
Bagging No. 2	.50	@	—
No. 1 Burlap	—	@	3.50

Domestic Rags (New)
(F. o. b. Boston)

Shirt Cuttings—			
New White No. 1.	.06½	@	.07
New White No. 2.	—	@	.06
Silesias No. 1	.06	@	.06¼
New Black Silesias	.02½	@	.02¾
New Unbleached	—	@	.08
Fancy	.04	@	.04½
Washable	.04	@	.04½
Cottons—According to grades—			
Blue Overalls	.05	@	.06
New Black, soft	.04	@	.04½
Khaki Cuttings	.04	@	.04½
O. D. Khaki	.04½	@	.05
Corduroy	.03	@	.03½
New Canvas	.08	@	.08½

Domestic Rags (Old)
(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	4.75	@	5.25
Miscellaneous	—	@	4.00
White No. 2—			
Repacked	.04½	@	.05
Miscellaneous	.03½	@	.04
Twos and Blues	2.50	@	2.75
Thirds and Blues—			
Repacked	1.60	@	1.80
Miscellaneous	1.00	@	1.20
Black Stockings	3.25	@	3.50
Roofing Stock—			
No. 1	—	@	.63
No. 2	—	@	.58
No. 3	—	@	.53

Foreign Rags
(F. o. b. Boston)

Dark Cottons	—	@	.70
New No. 1 White Shirt Cuttings	6.50	@	6.75
Dutch Blues	—	@	1.80
New Checks & Blues	4.00	@	4.50
Old Fustians	1.55	@	1.65
Old Linsey Garments	.80	@	.90

TORONTO

Paper
(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.10¾	@	—
No. 2 Sulphite	08½	@	—
No. 1 Colored	.11¾	@	—
No. 2 Colored	.09	@	.10½
Ledgers (sulphite)	—	@	—
Ledgers, No. 1	.36	@	—
Ledgers, No. 2	.27	@	—
Writing	.09½	@	.10
Book—			
No. 1 M. F. (carloads)	6.65	@	—
No. 3 M. F. (carloads)	6.20	@	—
No. 1 S. C. (carloads)	7.15	@	—
No. 3 S. C. (carloads)	6.65	@	—
No. 4 S. C. (carloads)	5.70	@	—
No. 1 Coated and Litho	12.50	@	—
No. 2 Coated and Litho	11.50	@	—
No. 3 Coated and Litho	10.00	@	11.50
Coated tinted	14.00	@	—
Wrapping—			
Rag Brown	4.95	@	—
White Wrap	5.25	@	—
"B" Manila	5.00	@	—
No. 1 Manila	5.40	@	—
Fiber	5.40	@	—
Kraft, M. F.	5.90	@	—
Kraft No. 2	5.40	@	—

(Delivered Toronto)

News, per ton—			
Rolls (contract)	56.50	@	57.00
Sheets	61.50	@	—

Pulp
(F. o. b. Mill)

Ground Wood	30.00	@	32.00
Sulphite easy bleaching	50.00	@	—
Sulphite, news grade	44.00	@	—
Sulphite, bleached	62.50	@	75.00
Sulphate	60.00	@	—

Old Waste Paper
(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	2.80	@	—
Soft White	2.60	@	—
White Blk. News	1.50	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	1.10	@	—
Light and Crumpled Book Stock.	1.20	@	—
Ledgers and Writings	—	@	—
Manilas—			
New Manila Cut	1.50	@	—
Printed Manilas	.80	@	—
Kraft	1.90	@	—
News and Scrap—			
Strictly Overissue	.70	@	—
Strictly Folded	.70	@	—
No. 1 Mixed Paper	.60	@	—

Domestic Rags
(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.09½	@	.10
Fancy Shirt Cuttings	.06	@	.06¼

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